

# ATLAS STELLARUM VARIABILIIUM.

---

SERIES SEXTA,  
EAS SUPPLENS STELLAS VARIABILES,  
QUAE AD SERIES I, II, III. ACCESSERUNT,

COMPOSITA

A

I. G. HAGEN, S. I.,  
SPECULAE VATICANAE DIRECTORE.

---

BEROLINI,  
APUD FELICEM L. DAMES,  
MCMVIII.

PIO · X · P · M

QVINQVAGESIMVM · ANNVM

AB · INITO · SACERDOTIO · CELEBRANTI

FAVSTA · QVAEQVE · ADPRECANTES

MVNVSCVLVM · HOC

PRONIS · ANIMIS · OFFERVNT

SPECVLAE · VATICANAE

CVRATORES

# ATLAS STELLARUM VARIABILIIUM.

---

## LISTE DER SUBSCRIBENTEN.

---



### Buchhandlungen.

Akademische Buchhandlung, Upsala. (1 Exemplar.)  
Asher & Co., Berlin. (1 Exemplar.)  
Blackwell, B. H., Oxford. (1 Exemplar.)  
Brockhaus, F. A., Leipzig. (2 Exemplare.)  
Calve'sche, J. C., Universitäts-Buchhandlung, Prag.  
(1 Exemplar.)  
Cammermeyers Boghandel, Christiania. (1 Exemplar.)  
Castor & Co., F. H., Boston, Mass. (1 Exemplar.)  
Dames, Felix L., Steglitz-Berlin. (30 Exemplare.)  
Deighton, Bell & Co., Cambridge, England. (1 Exemplar.)  
Deuerlich'sche Buchhandlung, Göttingen. (1 Exemplar.)  
Doesburgh, S. C. van, Leiden. (1 Exemplar.)  
Dulau & Co., London. (1 Exemplar.)  
Dümmler's Buchh., Ferd. (Edm. Stein), Berlin. (1 Exemplar.)  
Folganty, G., Odessa. (1 Exemplar.)  
Franz'sche Hofbuchhandlung, München. (1 Exemplar.)  
Frick, Wien. (1 Exemplar.)  
Friedländer & Sohn, R., Berlin. (5 Exemplare.)  
Gambier, H., Paris. (1 Exemplar.)  
Gebethner & Co., G., Krakau. (1 Exemplar.)  
Georg, H., Lyon. (1 Exemplar.)  
Gerold & Co., Wien. (2 Exemplare.)  
Harrassowitz, Otto, Leipzig (3 Exemplare.)  
Herder & Co., München. (1 Exemplar.)  
Hinrichs'sche Sortiments-Buchhandlung, Leipzig.  
(1 Exemplar.)  
Hoepli, Ulrico, Milano. (1 Exemplar.)

Kilian's, Friedr., Universitäts-Buchhandlung, Budapest.  
(1 Exemplar.)  
Klei, H. L. van der, Groningen. (1 Exemplar.)  
Klincksieck, C., Paris. (1 Exemplar.)  
Kössling'sche Buchhandlung, Leipzig. (1 Exemplar.)  
Kymmel, N., Riga. (1 Exemplar.)  
Lang, A., Moskau. (1 Exemplar.)  
Loescher & Co., Roma. (1 Exemplar.)  
Mayer & Müller, Berlin. (1 Exemplar.)  
Mohr, Ernst, Heidelberg. (1 Exemplar.)  
Möller, Hjalmar, Lund. (1 Exemplar.)  
Müller, Albert, Zürich. (1 Exemplar.)  
Parker, James & Son, Oxford. (1 Exemplar.)  
Privat, Edouard, Toulouse. (1 Exemplar.)  
Ramlot frères et soeurs, Bruxelles. (1 Exemplar.)  
Rees & Co., Ltd., London. (1 Exemplar.)  
Röhrscheid, L., Bonn. (1 Exemplar.)  
Ruat, P., Marseille. (1 Exemplar.)  
Rübe, Max, Leipzig. (1 Exemplar.)  
Stechert, G. E., New York City. (12 Exemplare.)  
Trpinac, Georg, Agram. (1 Exemplar.)  
Winter's, C., Universitäts-Buchhandlung, Heidelberg.  
Vieweg, A., Paris. (1 Exemplar.)  
Voss' Sortiment, Leipzig. (3 Exemplare.)  
Wende & Co., Warschau. (1 Exemplar.)  
Wesley & Son, Wm., London. (9 Exemplare.)  
Westermann & Co., New York City. (4 Exemplare.)  
Williams & Norgate, London. (1 Exemplar.)

## Observatorien und Bibliotheken.

<b>Agram,</b>	K. Sternwarte (durch Georg Trpinac, Agram).	<b>Firenze-Arcetri,</b>	Osservatorio Astronomico.
<b>Allegheny, Pa.,</b>	Observatory.	<b>Gotha,</b>	Herzogl. Sternwarte.
<b>Amherst, Mass.,</b>	Amherst College Observatory (durch G. H. Stechert, New York).	<b>Göttingen,</b>	K. Sternwarte.
<b>Basel,</b>	Astronomisch - Meteorologische Anstalt.	<b>Göttingen,</b>	K. Universitäts-Bibliothek (durch Deuerlich'sche Buchhandlung, Göttingen).
<b>Beirut,</b>	Dr. Robert H. West (durch R. Friedländer & Sohn, Berlin).	<b>Groningen,</b>	K. Universitäts-Bibliothek (durch H. L. van der Klei, Groningen).
<b>Berkeley, Cal.,</b>	State University of California (durch Mayer & Müller, Berlin).	<b>Hamburg-Bergedorf,</b>	Sternwarte.
<b>Berlin,</b>	K. Sternwarte (durch Ferd. Dümmeler's Buchh. [Edm. Stein], Berlin).	<b>Heidelberg,</b>	Grossherzogl. Astronomisches Institut (durch C. Winter'sche Univ.-Buchh., Heidelberg).
<b>Berlin-Treptow,</b>	Sternwarte.	<b>Heidelberg-Königstuhl,</b>	Grossherzogl. Astro-physikalisches Institut (durch Ernst Mohr, Heidelberg).
<b>Bonn,</b>	K. Universitäts-Sternwarte (durch L. Röhrscheid, Bonn).	<b>Jena,</b>	Grossherzogl. Sternwarte.
<b>Boston, Mass.,</b>	Public Library (durch F. H. Castor & Co., Boston).	<b>Innsbruck,</b>	Prof. Dr. Egon v. Oppolzer.
<b>Breslau,</b>	K. Universitäts-Sternwarte.	<b>Kasan,</b>	K. Universitäts-Bibliothek (durch Voss' Sort., Leipzig).
<b>Brighton, Mass.,</b>	Mr. Edwin F. Sawyer.	<b>Krakau,</b>	K. K. Sternwarte.
<b>Cambridge, England,</b>	University Library (durch Deighton, Bell & Co., Cambridge).	<b>Krakau,</b>	Colleg des H. H. (durch G. Gebethner & Co., Krakau).
<b>Cambridge, Mass.,</b>	Harvard University Library, (d. Otto Harrassowitz, Leipzig).	<b>La Plata,</b>	Observatorio Astronomico (durch R. Friedländer & Sohn, Berlin).
<b>Cambridge, Mass.,</b>	Harvard College Observatory (2 Exempl. durch Otto Harrassowitz, Leipzig).	<b>Lawrence, Kansas,</b>	Library of the University of Kansas.
<b>Catania,</b>	R. Osservatorio Astrofisico.	<b>Leiden,</b>	K. Sternwarte (durch J. C. van Doesburgh, Leiden).
<b>Charlottesville, Va.,</b>	Leander McCormick Observatory (durch G. E. Stechert, New York).	<b>Leipzig,</b>	K. Universitäts-Sternwarte (durch Hinrichs'sche Sort.-Buchhandlg., Leipzig).
<b>Chicago, Ill.,</b>	University of Chicago Press (durch G. E. Stechert, New York).	<b>Lincoln, Nebr.,</b>	University of Nebraska (durch B. Westermann & Co., New York).
<b>Chicago, Ill.,</b>	John Crerar Library (durch B. Westermann & Co., New York).	<b>Lisboa,</b>	R. Observatorio Astronomico (d. R. Friedländer & Sohn, Berlin).
<b>Christiania,</b>	Universitetets Observatorium (d. Cammermeyers Boghandel, Christiania).	<b>Lund,</b>	K. Universitäts - Observatorium (durch Hjalmar Möller, Lund).
<b>Columbia, Mo.,</b>	University of Missouri (durch G. E. Stechert, New York).	<b>Lyon-St. Genis-Laval,</b>	Observatoire (d. H. Georg, Lyon).
<b>Columbus, Ohio,</b>	Ohio State Library.	<b>Madison, Wisc.,</b>	Washburn Observatory.
<b>Dorpat,</b>	K. Universitäts-Sternwarte (durch R. Friedländer & Sohn, Berlin).	<b>Madrid,</b>	R. Observatorio Astronomico (d. Max Rübe, Leipzig).
<b>Edinburgh,</b>	Royal Observatory (d. Williams & Norgate, London).	<b>Manila,</b>	Observatory.
		<b>Marseille,</b>	Bibliothèque de la Faculté des Sciences (d. P. Ruat, Marseille).

<b>Milano,</b>	R. Osservatorio Astronomico.	<b>Roma,</b>	R. Osservatorio del Collegio Romano (d. Loescher & Co., Roma).
<b>Montreal, Canada,</b>	McGill University Library.	<b>Roma,</b>	Specola Vaticana.
<b>Mount Hamilton, Cal.,</b>	Lick Observatory.	<b>Rousdon,</b>	Observatory of the late Sir Cuthbert Peek.
<b>München,</b>	K. B. Hof- und Staatsbibliothek (durch Franz'sche Hofbuchhandlung, München).	<b>St. Petersburg,</b>	K. Universitäts-Bibliothek (durch Voss' Sort., Leipzig).
<b>New Barnett, England,</b>	A. N. Brown, M. A. (durch Rees & Co., Ltd., London).	<b>South Hadley, Mass.,</b>	Mount Holyoke College (durch G. E. Stechert, New York).
<b>New York,</b>	Library of the Columbia University (durch B. Westermann & Co., New York).	<b>Stonyhurst,</b>	College Observatory.
<b>Northampton, Mass.,</b>	Smith College (durch G. E. Stechert, New York).	<b>Strassburg i. E.,</b>	K. Universitäts-Sternwarte.
<b>Odessa,</b>	Bibliothek d. K. Neurussischen Universität (d. G. Folganty, Odessa).	<b>Sydney,</b>	Government Observatory.
<b>O'-Gyalla,</b>	K. Ungar. Astrophysikalisches Observatorium (durch Friedr. Kilián's Univ. Buchh., Budapest).	<b>Tokyo,</b>	Imperial Astronomical Observatory (durch R. Friedländer & Sohn, Berlin).
<b>Omaha, Nebr.,</b>	Creighton University.	<b>Toulouse,</b>	Observatoire de l'Université (d. Édouard Privat, Toulouse).
<b>Oxford,</b>	University Observatory (durch B. H. Blackwell, Oxford).	<b>Torino,</b>	R. Osservatorio Astronomico. (2 Exemplare.)
<b>Paris,</b>	Observatoire (durch C. Klincksieck, Paris).	<b>Uccle,</b>	Observatoire Royal (durch Ramlot frères et soeurs, Bruxelles).
<b>Paris-Meudon,</b>	Observatoire d'Astronomie Physique (durch H. Gambier, Paris).	<b>Upsala,</b>	K. Observatoriet (durch Akademische Buchhandlung, Upsala).
<b>Pasadena, Cal.,</b>	Mount Wilson Solar Observatory (durch G. E. Stechert, New York).	<b>Urbana, Ill.,</b>	University of Illinois (durch G. E. Stechert, New York).
<b>Padova,</b>	R. Osservatorio Astronomico (d. Ulrico Hoepli, Milano).	<b>Utrecht,</b>	K. Sternwarte.
<b>Philadelphia, Pa.,</b>	Observatory of the University (d. G. E. Stechert, New York).	<b>Washington, D. C.,</b>	Smithsonian Institution.
<b>Pola,</b>	K. K. Sternwarte des Hydrographischen Amtes (durch Gerold & Co., Wien).	<b>Washington, D. C.,</b>	U. S. Naval Observatory (durch B. Westermann & Co., New York).
<b>Potsdam,</b>	K. Astrophysikalisches Observatorium.	<b>Warschau,</b>	K. Astronomisches Observatorium (durch Wende & Co., Warschau).
<b>Poughkeepsie, N. Y.,</b>	Vassar College (durch G. E. Stechert, New York).	<b>Wellesley, Mass.,</b>	Wellesley College (durch G. E. Stechert, New York).
<b>Prag,</b>	K. K. Sternwarte (durch J. C. Calve'sche Univ.-Buchh., Prag).	<b>Wien,</b>	K. K. Universitäts-Sternwarte (d. Gerold & Co., Wien).
<b>Princeton, N. Y.,</b>	Princeton University (durch G. E. Stechert, New York).	<b>Wien,</b>	v. Kuffner'sche Sternwarte (durch Wilhelm Frick, Wien).
<b>Pulkowa,</b>	K. Nicolai-Haupt-Sternwarte (d. Voss' Sort., Leipzig).	<b>Wolfegg,</b>	Fürstl. Waldegg - Wolfegg'sche Bibliothek (durch Herder & Co., München).
<b>Rio de Janeiro,</b>	Bibliotheca do Observatorio.	<b>Würzburg,</b>	K. Universitäts-Bibliothek (durch Kössling'sche Buchh., Leipzig).
		<b>Zi-ka-wei,</b>	Observatoire.
		<b>Zürich,</b>	Sternwarte des Eidgen. Polytechnikums (durch Albert Müller, Zürich).

## PRAEFATIO.

---

Huius Seriei Catalogos Chartasve explicare supervacaneum est, cum ad superiores Series, primam, secundam, tertiam, omnino conveniat. Observationes enim stellarum ad hanc Seriem componendam ab eodem auctore, eodem in loco, eodem instrumento, eadem methodo institutae sunt atque ad Series I, II, III; eodemque modo ab iisdem adiutoribus factae sunt omnes computationes.

Una Catalogi columna accedit, quae quidem in singulis foliis e propriis repetitur stellarum magnitudinibus, prout a D. Pickering ex ultimis suis observationibus derivatae nobisque nuper transmissae sunt. Hae autem magnitudines gradibus nostris, tanquam ordinatae suis abscissis, applicatae lucis curvam determinaverunt, ex qua omnium eius chartae stellarum magnitudines quasi scriptae legerentur. Magnitudines hoc graphico modo obtentas invenies sub titulo HP., ubi litteris crassis illae indicantur, quibus ut suis ordinatis quaeque curva innixa est.

Duo sunt, quare huic Seriei columnam HP. addamus: alterum, ut quae sit relatio inter magnitudines Serierum I, II, III et systema HP. clarius appareat, alterum ut tabulae illae XVII, XVIII, quas D. Pickering in suo volumine XXXVII pp. 189—200 ad convertendos gradus nostros in suum systema photometricum tradidit, ad has chartas extendantur.

Et ita quidem haec Series Sexta supplementi loco est, non solum quatenus eas, quae I<sup>ae</sup>, II<sup>ae</sup>, III<sup>ae</sup> supervenerunt stellas variabiles supplet, sed maxime quidem, quia in luce ponit, quae ratio inter stellarum magnitudines, ab his duobus systematis derivatas, intercedat.

Maxima (vel minima) lux in singulis foliorum titulis indicata elementis nititur, quae aut in III catalogo D. Chandler eiusque revisione, aut in II catalogo D. Pickering inveniuntur, aut a «Commissione Societatis Astronomicae» ad novum catalogum praeparandum colliguntur ac nobiscum a D. Müller communicata sunt.

Reliquum est, ut omnibus qui ad hanc ultimam Seriem et generatim ad totum Atlantem componendum et typis edendum suam operam contulerunt, animum gratissimum significemus.

Quod cum singulas Series vulgaremus optavimus, nunc cum opus ad finem feliciter perductum est, repetimus: faxit Deus, ut iuvet ad aperienda nova huius scientiae arcana, eorumque leges tandem cognoscendas, quo magis possint caeli nobis enarrare gloriam Eius.

E Specula Vaticana,

Die XIX Septembris, anni iubilare MCMVIII.

I. G. Hagen, S. I.

## Addenda et Corrigenda.

---

### In Catalogis:

276 RR Andromedae, Num. 24,  $\Delta\delta = +19'.8$  pro  $+17'.9$ .

E charta photographica Harvardensi addi possunt duae vicinae:

$$\Delta\alpha = 0^m 0^s, \Delta\delta = +1'.4$$

$$\Delta\alpha = -0^m 3^s, \Delta\delta = -0'.9$$

7492 RZ Cygni, Num. 23 designata BD. + 47<sup>0</sup> 3202 a, 9<sup>M</sup>.5 (AN. 4251).

Post num. 78 adde:  $\Delta\alpha = -0^m 13^s$ ,  $\Delta\delta = +1'.4$ , q, Parkhurst AN. 3579.

$$+0 \quad 5, \quad -0.5, h, \quad ,, \quad ,, \quad ,,$$

$$+0 \quad 2, \quad +0.6, y, \quad ,, \quad ,, \quad ,,$$

### In Chartis:

276 RR Andromedae, Num. 24,  $\Delta\delta = +19'.8$  pro  $+17'.9$ .

7793 SS Cygni, Num. 18,  $\Delta\delta = +11'.1$  pro  $+8'.1$ .

---

## X Andromedae

0<sup>h</sup> 8<sup>m</sup> 33<sup>s</sup> (1855.0) +46° 12'.4Max. = 2415 062<sup>d</sup> (11. Febr. 1900) + 342<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .2	7 <sup>M</sup> .4	-4 <sup>m</sup> 1 <sup>s</sup>	+29'.2	PD. 7 <sup>M</sup> .40 WG-	38	74	9 <sup>M</sup> .8		11 <sup>M</sup> .0	-1 <sup>m</sup> 45 <sup>s</sup>	-12'.6	
2			7.5	7.4	+0 42	-23.9	„ 7.34 GW	39	77	9.9	9 <sup>M</sup> .5	11.1	-0 1	+11.9	
3	0	8 <sup>M</sup> .0	8.0	8.1	-2 31	+11.3		40	77	9.9	9.5	11.1	-2 46	-23.9	
4	5	8.1	8.3	8.3	-2 6	- 3.9		41	80	10.0		11.3	-1 8	-12.9	
5	10	8.2	8.5	8.4	+0 35	+16.0		42	82	10.0		11.3	+0 2	+ 7.5	
6	13	8.3	8.8	8.6	-1 2	+14.8		43	83	10.1		11.4	+1 17	+11.7	
7	15	8.4	8.2	8.6	-0 50	- 6.3		44	84	10.1		11.4	-0 53	+ 3.6	
8	21	8.5	8.6	8.9	-1 16	-12.6		45	86	10.1		11.5	+0 52	+ 6.6	
9	24	8.6	8.5	9.0	-0 54	+22.7		46	87	10.2		11.6	+0 32	-15.4	
10	29	8.7	8.8	9.2	-3 0	-12.3		47	88	10.2		11.6	-0 8	+10.2	
11	30	8.7	9.1	9.2	-1 19	-10.2		48	88	10.2		11.6	-1 23	+ 9.3	
12	31	8.8	8.6	9.3	-0 51	-24.0		49	89	10.2		11.7	+0 43	+14.9	
13	38	8.9	8.9	9.6	+0 40	+14.1		50	90	10.2		11.7	+0 36	- 5.4	
14	40	9.0	8.9	9.7	+1 18	+ 3.9		51	91	10.3		11.7	+0 30	+12.7	
15	41	9.0	8.9	9.7	-2 4	+ 5.9		52	92	10.3		11.8	+0 8	- 6.6	
16	43	9.1	9.2	9.8	-0 56	-12.9		53	95	10.4		11.9	+1 17	- 9.9	
17	44	9.1	9.0	9.8	-0 7	-12.6		54	97	10.4		12.0	-1 13	+11.4	
18	44	9.1	9.0	9.8	+2 0	+22.5		55	98	10.4		12.0	-0 17	- 1.8	
19	48	9.2	9.3	10.0	-2 8	-25.9		56	98	10.4		12.0	0 0	- 2.4	
20	49	9.2	9.4	10.0	-1 19	+26.2		57	101	10.5		12.1	+0 48	+ 9.0	
21	51	9.3	9.3	10.1	-1 2	-27.5		58	101	10.5		12.1	+0 36	- 4.2	
22	52	9.3	9.3	10.1	+1 56	+18.0		59	102	10.5	9.5	12.2	-1 27	- 9.6	dpl.*
23	53	9.3	9.0	10.2	-2 32	+15.7		60	103	10.6		12.2	+0 15	+ 6.1	
24	56	9.4	9.4	10.3	-2 11	-21.8		61	103	10.6		12.2	+1 16	-11.7	
25	59	9.5	9.5	10.4	-0 23	+ 6.3		62	105	10.6		12.3	+0 11	+11.9	
26	61	9.5	9.2	10.5	-2 14	-11.7		63	107	10.7		12.4	-1 3	+ 0.7	
27	61	9.5	9.2	10.5	-1 11	+19.2		64	109	10.7		12.5	-1 27	-11.3	
28	61	9.5	9.5	10.5	+0 20	-12.0		65	111	10.8		12.6	+0 27	+ 5.4	
29	62	9.5	9.5	10.5	+1 25	-29.4		66	112	10.8		12.6	-1 10	+ 0.3	
30	64	9.6		10.6	-1 11	+18.3		67	114	10.8		12.7	+0 1	+ 6.1	
31	65	9.6	9.5	10.7	+1 7	- 6.6		68	114	10.8		12.7	-0 22	+ 9.3	
32	67	9.7		10.8	+2 15	-23.9		69	116	10.9		12.7	-0 26	- 3.3	
33	67	9.7	9.4	10.8	-0 35	-28.7		70	117	10.9		12.8	-0 21	+ 9.9	
34	68	9.7	9.5	10.8	+2 54	-17.7		71	117	10.9		12.8	+0 21	+15.0	
35	70	9.7	9.5	10.9	-0 34	+23.8		72	118	10.9		12.8	-0 4	- 0.9	
36	71	9.8		10.9	-1 27	+13.0									
37	74	9.8		11.0	+1 16	-17.1									

\* BD. +46° 30, sic aestimata 5. Febr. et 31. Dec. 1901. A. 4. Dec. 1902 in vanum quacsita a D. Graff (A. N. 169 p. 273).

$$M = 8.9 + 0.025 (G - 36.9).$$

188

## Y Cephei

 $0^h 28^m 18^s$  (1855.0) +  $79^\circ 33'.5$ Max. =  $2\,415\,200^d$  (29 Junii 1900) +  $336^d$  E?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7. <sup>M</sup> 0	6. <sup>M</sup> 5	-10 <sup>m</sup> 30 <sup>s</sup>	-18'.6	PD. 6. <sup>M</sup> 76 GW	24	59	11. <sup>M</sup> 5		11. <sup>M</sup> 9	-0 <sup>m</sup> 5 <sup>s</sup>	-16'.5	
2			7.7	7.7	+13 30	-30.7		25	61	11.6		12.0	+1 45	-16.0	
3	0	8. <sup>M</sup> 6	8.5	8.7	- 0 20	-11.5									
4	2	8.7	8.8	8.8	+ 3 20	-12.1		26	62	11.7		12.1	-3 0	- 9.4	
5	8	9.0	8.9	9.1	-10 15	+ 0.8		27	64	11.8		12.2	+2 40	- 6.7	
6	10	9.1	9.2	9.2	-12 55	-15.7		28	66	11.9		12.3	-1 35	+ 4.3	
7	11	9.1	8.9	9.3	+ 3 50	-15.4		29	69	12.0		12.4	-5 10	- 4.0	
8	17	9.4	9.5	9.6	- 5 55	+10.8		30	69	12.0		12.4	+1 30	- 9.4	
9	19	9.5	9.5	9.7	+ 4 30	-19.3		31	69	12.0		12.4	+2 10	-10.3	
10	24	9.8	9.5	9.9	- 4 50	+ 1.5		32	69	12.0		12.4	+1 55	- 7.9	
11	28	10.0		10.2	+ 7 50	-13.3	var.? **	33	71	12.1		12.5	+5 25	+ 8.9	
12	30	10.1		10.3	+ 5 25	-16.8		34	72	12.2		12.6	+2 45	+ 6.5	
13	33	10.1		10.3	+ 0 55	-11.5		35	72	12.2		12.6	-4 50	-10.0	
14	33	10.2		10.5	- 3 30	+13.7		36	72	12.2		12.6	+0 35	-10.3	
15	36	10.4		10.6	- 0 40	+ 5.3		37	74	12.3		12.7	0 0	- 1.5	
16	39	10.5		10.8	+ 6 40	- 4.0		38	75	12.3		12.8	-1 25	- 5.7	
17	45	10.8		11.1	+ 3 15	+ 5.9		39	79	12.5		13.0	+0 10	- 6.1	
18	48	11.0		11.3	+ 4 40	+12.5		40	81	12.6		13.1	+0 30	- 1.1	
19	51	11.1		11.5	- 1 10	+12.8		41	81	12.6		13.1	+2 30	+ 7.4	
20	53	11.2		11.6	- 1 10	+ 3.9							-0 55	- 0.5	AC. Gr. ***
21	54	11.3		11.6	- 3 50	- 9.1							+0 50	+ 2.0	" " "
22	56	11.4		11.7	- 3 25	+ 4.5							+0 40	- 0.2	" " "
23	57	11.4		11.8	+ 2 40	+11.9									

\* BD. +  $79^\circ 15'$  colorata, var.? (Hartwig, A.N. 156 p. 369).

\*\* Ex litteris Cl. Pickering.

\*\*\* Desumptae ex Chartis Astrographicis Zonarum +  $79^\circ$  et +  $80^\circ$  Greenwich, quas Cl. Director W. H. M. Christie, antequam in lucem edere benigne ad nos miserat. Jam quae esset inter has stellas vicinas variabilis Y, a diversa magnitudine photographica 8.<sup>M</sup>7 et 13.<sup>M</sup>0 ultro apparuit.

$$M = 9.0 + 0.050 (G - 8.8).$$

## V Andromedae

 $0^h 42^m 14^s$  (1855.0)  $+ 34^\circ 51'.8$ Max. =  $2413872^d$  (8 Nov. 1896)  $+ 259^d.3$  E.

Num.	Gradius	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradius	Magn.	BD	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .4	8 <sup>M</sup> .0	-2 <sup>m</sup> 6 <sup>s</sup>	+32'.9	PD. 8 <sup>M</sup> .33 W+	34	70	10 <sup>M</sup> .6		11 <sup>M</sup> .5	-1 <sup>m</sup> 32 <sup>s</sup>	-14'.9	dpl.
2	0	8 <sup>M</sup> .3	8.4	8.5	-0 7	-19.2	P. 8.4 z*	35	73	10.7		11.6	-0 22	- 5.1	„ (11 <sup>M</sup> .5) p
3	3	8.4	8.0	8.7	-1 57	+ 5.7		36	74	10.7		11.7	-0 35	+15.0	
4	8	8.6	8.3	8.9	+0 33	-12.6	„ 9.0 b	37	76	10.8		11.8	+0 31	+14.1	
5	10	8.6	8.5	9.0	-0 11	+26.9		38	77	10.8		11.9	+0 26	- 3.0	„ 11.4 e
6	14	8.8	8.9	9.2	+1 11	+11.7	„ 9.1 A'	39	79	10.9		12.0	-0 31	+ 6.0	„ 11.4 u
7	17	8.9	9.0	9.4	-0 37	-12.6	„ 9.4 y	40	80	10.9		12.0	-0 23	+ 5.4	„ 11.6 t
8	18	8.9	9.0	9.4	+0 58	-11.7		41	81	11.0		12.1	-0 34	- 3.9	„ (12) r
9	19	8.9		9.5	+0 10	+ 9.0	**	42	82	11.0		12.1	-1 27	-12.6	
10	20	9.0	9.5	9.5	-1 2	-26.3		43	82	11.0		12.1	-0 39	+ 9.6	
11	21	9.0	9.2	9.6	+1 8	+ 5.2	„ 9.5 l	44	86	11.1		12.3	+0 15	+ 0.8	„ 12.0 d
12	25	9.1	9.4	9.7	-1 6	+17.4		45	87	11.2		12.4	-0 6	+ 6.7	„ 11.8 s
13	26	9.2	9.1	9.7	+2 21	+23.2		46	87	11.2		12.4	+1 18	+ 9.6	
14	27	9.2		9.8	+0 9	+ 9.1	**	47	89	11.2		12.5	-0 44	+ 6.3	
15	31	9.3	9.1	9.9	+1 11	- 6.1		48	89	11.2		12.5	+1 21	+14.7	
16	34	9.4	9.4	10.0	+1 3	-18.1		49	91	11.3		12.6	-0 24	- 3.6	„ (12) q
17	35	9.5	9.3	10.1	+2 44	-24.5		50	93	11.4		12.7	+0 38	+ 0.6	„ 11.7 o
18	35	9.5	9.1	10.1	+0 18	- 6.0	„ 10.1 a	51	94	11.4		12.8	-0 2	- 2.3	„ 12.1 g
19	36	9.5	9.3	10.1	-2 18	+17.6		52	95	11.4		12.8	-0 30	+ 3.6	„ 11.6 w
20	39	9.6	9.5	10.3	+1 52	-18.3		53	96	11.5		12.9	+1 15	+13.2	
21	46	9.8		10.5	-2 7	+26.6		54	101	11.6		13.2	-0 6	- 2.4	„ 12.5 h
22	53	10.0	9.5	10.8	+2 40	-12.6		55	105	11.8		13.5	-1 3	- 1.1	
23	58	10.2		11.0	+2 36	-15.1							+0 21	- 1.8	„ 12.4 m
24	58	10.2		11.0	-1 49	+17.7							-0 14	- 2.8	„ 12.6 A
25	58	10.2		11.0	+1 15	+10.2							+0 9	+ 2.5	„ 13.2 B
26	59	10.2		11.0	+0 17	-12.3	„ 10.6 f						+0 11	- 0.4	„ 13.6 E
27	59	10.2		11.0	-1 29	+ 6.6							+0 1	+ 1.5	„ 14.0 C
28	60	10.3		11.1	+0 56	- 3.2							+0 11	+ 1.6	„ 14.4 D
29	61	10.3	9.5	11.1	-1 22	+24.2							+1 9	- 7.7	***
30	63	10.4		11.2	+1 4	- 2.4									
31	65	10.4		11.3	+0 55	+ 3.3									
32	68	10.5		11.4	-0 47	+14.7									
33	70	10.6		11.5	+0 44	- 0.2	„ 11.3 n								

\* Parkhurst, Researches in Stell. Photom. 1906. p. 32, Tab. 17 (magnitudines et litterae).

\*\* (9 + 14) = BD + 35° 152, 8<sup>M</sup>.3, HP. = 8<sup>M</sup>.67,  $\Sigma$  62.

\*\*\* Stella tenuis, visa 5 Octob. 1901, disparuit 6 Octob. 1901.

$$M = 9.0 + 0.033 (G - 21.2).$$

## RR Andromedae

 $0^h 43^m 31^s$  (1855.0)  $+ 33^\circ 35'.2$ 

 Max. = 2 415 833<sup>d</sup> (24. Mart. 1902)  $+ 328^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	6 <sup>M</sup> .4	7 <sup>M</sup> .0	7 <sup>M</sup> .0	+0 <sup>m</sup> 34 <sup>s</sup>	-29'.3	PD. 7 <sup>M</sup> .00 WG	24	77	9 <sup>M</sup> .8	9 <sup>M</sup> .5	10 <sup>M</sup> .5	-1 <sup>m</sup> 26 <sup>s</sup>	+17'.9	
2	15	7.0	7.7	7.4	-1 24	+35.9		25	79	9.9		10.7	+2 14	-17.1	
3	31	7.8	8.0	8.0	+1 56	-27.0		26	79	9.9		10.7	-0 20	-19.2	
4	42	8.2	8.0	8.5	+1 11	+15.6		27	82	10.0	9.5	10.9	-2 11	-29.5	
5	46	8.4	8.5	8.7	+4 8	+10.5		28	82	10.0		10.9	+1 26	- 3.6	
6	48	8.5	9.0	8.9	+0 55	- 5.9		29	86	10.2		11.1	+0 58	+ 7.6	
7	50	8.6	9.0	9.0	+4 14	+10.8		30	88	10.3		11.3	-0 43	- 0.1	10 <sup>M</sup> .4*
8	51	8.7	9.0	9.0	-1 21	+29.1		31	91	10.5		11.5	-0 25	- 5.9	11.2*
9	55	8.8	8.8	9.2	+3 8	+18.3		32	91	10.5		11.5	+1 17	-14.1	
10	56	8.9	8.8	9.3	-0 13	- 6.2		33	94	10.6		11.7	-0 24	-11.9	dpl.
11	59	9.0	9.5	9.4	+1 31	- 9.9		34	97	10.7		11.9	-1 30	+ 0.7	dpl.
12	61	9.1	8.8	9.6	+2 24	+18.8		35	97	10.7		11.9	+0 12	-11.8	
13	62	9.1	9.0	9.6	-1 9	+31.4		36	100	10.9		12.2	-1 32	- 8.1	
14	64	9.2	9.4	9.7	-0 29	-29.3		37	101	10.9		12.2	+0 48	-11.9	
15	65	9.3	9.0	9.8	-0 41	-26.4		38	102	10.9		12.3	-0 18	+15.0	
16	65	9.3	9.2	9.8	+2 10	-13.5		39	104	11.0		12.4	-1 25	- 6.6	
17	67	9.4	9.3	9.9	+1 20	-17.7		40	104	11.0		12.4	+1 3	- 0.2	
18	68	9.4	9.5	10.0	-1 6	+24.2		41	108	11.2		12.7	+0 35	+ 5.4	
19	69	9.5	9.5	10.0	-1 44	+17.9		42	108	11.2		12.7	+0 8	+ 6.0	
20	70	9.5	9.4	10.1	+0 56	+23.7		43	108	11.2		12.7	-0 46	- 0.3	
21	72	9.6		10.2	-0 33	- 5.1		44	110	11.3		12.9	+0 55	0.0	
22	74	9.7	9.5	10.4	+1 35	+21.9	9 <sup>M</sup> .7*								
23	76	9.8	9.5	10.5	+0 22	+26.7									

\* Anderson AN. 3698.

$$M = 9.0 + 0.045 (G - 58.7).$$

## U Andromedae

 $1^h 7^m 14^s$  (1855.0)  $+39^\circ 57'.0$ Max. = 2 413 529<sup>d</sup> (1. Dec. 1895)  $+352.6^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .5	7 <sup>M</sup> .3	7 <sup>M</sup> .8	-1 <sup>m</sup> 55 <sup>s</sup>	+26'.0	PD. 7 <sup>M</sup> .62 GW	36	103	10 <sup>M</sup> .3		11 <sup>M</sup> .0	-1 <sup>m</sup> 55 <sup>s</sup>	+ 0'.6	
2	2	7.6	7.3	7.9	-3 12	+11.8	„ 7.66 GW-	37	104	10.3		11.1	+0 15	+12.3	
3	5	7.6	7.3	8.0	-2 9	+30.8	„ 7.78 GW+	38	109	10.5		11.2	+1 24	+14.7	
4	22	8.1	7.8	8.5	-3 4	+35.3		39	112	10.5	9 <sup>M</sup> .5	11.3	+0 27	+26.3	
5	24	8.2	8.3	8.6	+0 44	- 3.9		40	112	10.5		11.3	-0 44	+18.9	
6	25	8.2	8.0	8.6	+0 57	+10.0		41	117	10.7		11.5	-1 43	-15.0	
7	29	8.3	8.5	8.7	+2 14	+17.9		42	121	10.8		11.6	-0 52	- 1.8	
8	36	8.5	9.0	9.0	-1 30	-34.1		43	124	10.9		11.7	+0 50	- 9.6	
9	42	8.6	8.5	9.1	-0 44	+18.8		44	125	10.9		11.7	-0 39	+ 8.7	
10	44	8.7	9.0	9.2	+0 59	+11.7		45	127	10.9		11.8	+0 48	-11.1	
11	45	8.7	8.4	9.2	+3 4	-29.9		46	130	11.0		11.8	-0 54	+ 0.3	
12	47	8.8	9.1	9.3	-0 3	+ 6.5		47	130	11.0		11.8	+0 28	+ 3.0	
13	49	8.8	9.1	9.4	+2 6	-25.6		48	131	11.0		11.9	+0 22	-10.9	
14	53	8.9	9.2	9.5	-1 42	+24.0		49	132	11.1		11.9	-0 29	- 9.3	
15	55	9.0	9.0	9.5	+1 12	-15.0		50	133	11.1		12.0	+0 39	-12.1	
16	58	9.1	9.3	9.6	-1 4	-28.7		51	135	11.2		12.0	-0 49	+ 9.4	
17	62	9.2	9.2	9.7	+0 41	+11.5		52	138	11.2		12.1	+0 54	+ 6.6	
18	63	9.2	9.4	9.8	+2 45	+ 3.0		53	139	11.3		12.2	+0 26	+11.9	
19	65	9.3	9.3	9.9	+2 7	+26.2		54	139	11.3	9.5	12.2	+3 4	-17.1	dpl. *
20	70	9.4		10.0	+1 22	+13.5		55	139	11.3		12.2	+1 28	- 6.5	
21	72	9.5	9.5	10.1	+2 28	-15.9		56	143	11.4		12.3	+1 13	- 3.0	
22	72	9.5	9.2	10.1	+0 42	+26.9		57	148	11.5		12.4	-0 2	+ 8.7	
23	76	9.6	9.5	10.2	-2 40	-26.6		58	149	11.5		12.5	-0 17	+11.7	
24	80	9.7	9.5	10.3	-2 39	-20.1		59	150	11.6		12.5	+0 29	+ 4.8	
25	81	9.7	9.5	10.3	-2 18	-17.2		60	151	11.6		12.5	-0 13	+ 8.1	
26	81	9.7		10.3	+2 4	- 6.3		61	152	11.6		12.6	+0 33	+ 6.1	
27	83	9.8	9.5	10.4	+3 24	-17.3		62	156	11.7		12.7	-0 39	+ 9.9	
28	84	9.8		10.4	+1 46	-14.2		63	157	11.7		12.7	-1 16	+12.3	
29	86	9.8		10.5	-2 31	- 3.0		64	161	11.9		12.8	-1 18	+11.4	
30	88	9.9	9.5	10.5	-0 22	-20.9		65	161	11.9		12.8	-0 56	+ 8.7	
31	90	9.9		10.6	-0 24	-11.4		66	169	12.1		13.1	+0 13	-12.0	
32	95	10.1	9.5	10.7	+0 39	+22.1		67	169	12.1		13.1	+0 7	+ 0.5	
33	96	10.1	9.5	10.8	-1 32	- 3.6		68	175	12.2		13.3	-0 16	- 3.6	
34	98	10.2		10.9	-0 34	+14.7									
35	102	10.3	9.5	11.0	-2 17	+ 3.9									

\* Observata Bonnae 1856, 26. et 30. Septemb. (ex litt. D. Deichmüller).

$$M = 8.5 + 0.027 (G - 36.7).$$

## Y Andromedae

 $1^{\text{h}} 31^{\text{m}} 8^{\text{s}} (1855.0) + 38^{\circ} 36'.3$ 
 $\text{Max.} = 2415101^{\text{d}} (22. \text{Mart. } 1900) + 213^{\text{d}} \text{ E?}$ 

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .4	4 <sup>M</sup> .9	+0 <sup>m</sup> 55 <sup>s</sup>	+74'.1	$\epsilon$ Androm. PD. 5 <sup>M</sup> .22 W+ „ 6.92 WG- „ 7.32 WG- „ 7.84 GW- $\Sigma 141$	23	59	9 <sup>M</sup> .9	9 <sup>M</sup> .4	10 <sup>M</sup> .4	-2 <sup>m</sup> 8 <sup>s</sup>	-20'.7	**
2			6.7	6.8	+0 26	+80.5		24	61	10.0	9.5	10.5	+1 31	-26.6	
3	0	7 <sup>M</sup> .1	6.9	7.2	+0 40	+14.8		25	61	10.0		10.5	+2 29	-23.0	
4	9	7.5	7.5	7.7	+0 27	-22.4		26	62	10.1		10.6	-0 24	+12.6	
5	10	7.6	8.3	7.7	+2 30	+ 4.2		27	65	10.2	9.5	10.8	-1 19	-23.2	
6	17	7.9	8.3	8.1	+2 12	+ 7.8		28	67	10.3	9.5	10.9	+2 17	+14.2	
7	22	8.1	8.1	8.3	-0 8	-30.4		29	69	10.4		11.0	+0 12	+ 8.3	
8	24	8.2	8.1	8.4	-1 17	+ 0.5		30	69	10.4		11.0	-0 3	+ 6.0	
9	26	8.3	8.6	8.6	+2 35	- 0.9		31	73	10.6		11.3	+0 37	+11.8	
10	31	8.6	8.8	8.8	+0 51	-11.5		32	73	10.6		11.3	-1 39	- 0.3	
11	35	8.8	8.9	9.0	-1 26	+10.8	*	33	74	10.6		11.4	-0 48	-12.4	
12	41	9.1	8.9	9.4	-0 19	-19.9		34	79	10.9		11.7	+0 38	-12.0	
13	45	9.2		9.6	+1 31	+ 8.3		35	82	11.0		11.9	-0 15	- 9.2	
14	48	9.4	9.4	9.8	-0 32	+ 1.5		36	86	11.2		12.2	+0 5	+12.1	
15	49	9.4	9.2	9.9	-0 30	+ 3.9		37	89	11.4		12.4	+0 33	- 0.8	
16	49	9.4		9.9	+1 31	+ 7.1		38	90	11.4		12.5	-0 58	-12.0	
17	51	9.5	9.3	10.0	-0 41	+20.9		39	92	11.5		12.6	-1 2	- 0.3	
18	53	9.6	9.5	10.1	+1 39	+15.0		40	95	11.6		12.9	-0 46	- 0.9	
19	53	9.6	9.2	10.1	-0 40	+ 8.7		41	97	11.7		13.0	+0 9	+ 3.0	
20	56	9.8	9.5	10.2	-0 55	+12.8		42	102	12.0		13.4	-0 9	- 3.6	
								RU			var.		-0 58	-40.6	9 <sup>M</sup> — < 13 <sup>M</sup>
21	58	9.9		10.4	+2 29	-23.9	**								
22	59	9.9		10.4	+0 22	+23.9									

\* (13 + 16) = BD. + 38° 321, 9<sup>M</sup>3\*\* (21 + 25) = BD. + 38° 325, 9<sup>M</sup>5

$$M = 8.9 + 0.048 (G - 37.8).$$

## X Cassiopeiae

1<sup>h</sup> 46<sup>m</sup> 42<sup>s</sup> (1855.0) + 58° 32'.6Max. = 2 413 477<sup>d</sup> (10. Octob. 1895) + 384<sup>d</sup> E (Irregularitates magnae).

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .0	6 <sup>M</sup> .6	+1 <sup>m</sup> 37 <sup>s</sup>	+22'.4	Pl. 6 <sup>M</sup> .81 GW	41	67	10 <sup>M</sup> .2		10 <sup>M</sup> .4	+1 <sup>m</sup> 28 <sup>s</sup>	+ 5'.3	
2			7.5	7.1	-0 55	+ 0.8	" 7.29 GW	42	67	10.2		10.4	+0 27	+29.8	*
3	0	8 <sup>M</sup> .0	8.2	8.5	+3 10	- 5.9		43	68	10.3		10.4	+1 27	+12.6	
4	10	8.3	8.6	8.8	+1 49	+ 0.6	colorata	44	71	10.4	9 <sup>M</sup> .5	10.5	+0 34	-28.3	
5	11	8.4	8.1	8.8	1 28	+14.9		45	72	10.4		10.6	+1 9	- 3.7	
6	14	8.5	8.6	8.9	+3 34	-32.3		46	72	10.4		10.6	+0 44	+ 2.1	
7	16	8.5	9.1	8.9	-1 43	-20.9		47	74	10.5		10.6	-1 13	-14.5	
8	17	8.6	8.5	9.0	-1 9	+21.6		48	78	10.6		10.8	-0 23	+ 1.2	
9	22	8.7	8.7	9.1	-3 32	- 9.6		49	79	10.6		10.8	-1 24	- 9.0	
10	26	8.9	8.8	9.2	+3 15	+19.8		50	80	10.7		10.9	-0 50	- 6.6	
11	26	8.9	8.8	9.2	+3 51	+24.1		51	82	10.7		11.0	+1 52	-15.0	
12	29	9.0	9.3	9.2	-2 38	+ 3.0		52	84	10.8		11.1	+1 10	-11.9	
13	29	9.0	9.2	9.2	-0 8	- 3.7		53	84	10.8		11.1	-0 57	+ 8.9	
14	31	9.0	9.1	9.3	+1 34	+21.8		54	85	10.8		11.1	-0 20	+ 0.3	
15	32	9.1	9.5	9.3	+0 11	-26.8		55	86	10.9		11.2	+0 7	- 0.2	
16	32	9.1	9.0	9.3	-2 24	- 0.8		56	86	10.9		11.2	0 0	+ 5.8	
17	37	9.2	9.0	9.4	-2 19	-13.4		57	86	10.9		11.2	-0 18	+ 4.4	
18	40	9.3	9.4	9.5	-1 16	-20.0		58	89	11.0		11.3	+1 26	- 8.4	
19	42	9.4	9.4	9.6	-1 42	+ 6.3		59	90	11.0		11.3	-1 48	- 5.2	
20	43	9.4	9.5	9.6	+1 0	- 5.5		60	90	11.0		11.3	-0 43	+ 6.3	
21	44	9.5		9.6	+0 30	+29.6	*	61	91	11.0		11.4	+0 28	+ 5.3	
22	44	9.5	9.1	9.6	+3 15	+28.0	dpl.	62	93	11.1		11.5	-1 19	+ 7.2	
23	45	9.5	9.5	9.7	1 36	-16.0		63	93	11.1		11.5	+1 30	-12.3	
24	46	9.5	9.3	9.7	+1 15	- 7.9		64	93	11.1		11.5	+0 48	0.0	
25	46	9.5		9.7	+0 20	+13.5		65	95	11.1		11.6	-1 54	+11.4	
26	48	9.6	9.5	9.8	-2 38	+17.8		66	96	11.2		11.6	-1 36	+ 0.3	
27	49	9.6	9.5	9.8	+2 25	-18.8		67	97	11.2		11.7	-1 59	+ 7.6	
28	50	9.7	9.3	9.8	-0 9	-15.3		68	98	11.2		11.7	-1 33	- 2.1	
29	51	9.7	9.4	9.9	-1 21	-20.3		69	99	11.3		11.8	+0 16	-14.8	
30	53	9.8	9.5	9.9	+3 48	- 6.8		70	100	11.3		11.8	-1 28	+ 0.6	
31	55	9.8	9.5	10.0	2 11	- 9.2		71	101	11.3		11.9	-2 2	-10.5	
32	56	9.9	9.5	10.0	+1 6	-18.2		72	101	11.3		11.9	+1 45	-12.6	
33	56	9.9	9.4	10.0	-3 43	+18.7		73	101	11.3		11.9	-0 59	- 7.8	
34	58	9.9	9.5	10.1	+2 45	+ 2.1	colorata	74	104	11.4		12.0	+1 45	+11.2	
35	59	10.0	9.5	10.1	+3 36	-29.0		75	108	11.6		12.2	+0 4	- 5.3	
36	59	10.0	9.5	10.1	-0 14	- 8.6		76	110	11.6		12.3	+1 37	- 5.7	
37	59	10.0		10.1	-1 54	-18.0		77	111	11.7		12.4	-1 54	+ 7.2	
38	61	10.0		10.2	-0 12	+ 0.7		78	114	11.8		12.5	+0 6	+ 2.9	
39	65	10.2	9.5	10.3	-1 14	+ 9.8		79	117	11.9		12.6	0 0	- 5.0	
40	67	10.2		10.4	-1 36	+ 6.0		80	118	11.9		12.7	+0 13	+ 2.7	

\* (21 + 42) = BD. + 59° 362, 9<sup>M</sup>.1

M = 8.8 + 0.033 (G - 23.8).

# W Andromedae

$2^h 8^m 25^s$  (1855.0)  $+43^\circ 37'.8$

Max. = 2 415 001<sup>d</sup> (12. Dec. 1899)  $+ 397.4^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .2	5 <sup>M</sup> .1	-4 <sup>m</sup> 17 <sup>s</sup>	-4'.9	b Androm. PD. 4 <sup>M</sup> .95 RG-	33	50	10 <sup>M</sup> .8		11 <sup>M</sup> .2	+0 <sup>m</sup> 5 <sup>s</sup>	-8'.9	
2			7.7	7.7	-0 45	-31.9		34	50	10.8		11.2	-0 31	-3.5	P. — k
3	0	8 <sup>M</sup> .9	8.9	9.1	-1 7	+7.8	P. 9.4 a*	35	54	11.0		11.4	-1 31	-3.8	
4	2	9.0	9.0	9.2	+0 34	+16.6	„ 9.1 o	36	55	11.0		11.4	+0 41	-12.5	
5	(6)	var.?	9.5	9.4	+0 11	+0.1	„ 9-9 <sup>1</sup> / <sub>2</sub> c**	37	56	11.0		11.4	+0 17	-3.0	„ 11 <sup>M</sup> .3 g
6	7	9.2	9.5	9.5	-0 5	+3.4	„ 9.7 b	38	56	11.0		11.4	-0 39	-7.0	
7	10	9.3	9.3	9.6	+1 26	-0.5		39	59	11.1		11.5	+1 21	-3.1	
8	13	9.4	9.4	9.7	-1 51	+17.3		40	62	11.3		11.7	+0 17	-6.0	
9	14	9.4	9.5	9.8	+1 34	-15.8		41	63	11.3		11.7	-0 39	-14.9	
10	15	9.5	9.5	9.8	-2 44	+9.7		42	63	11.3		11.7	-0 12	-11.0	
11	18	9.6	9.5	9.9	-0 45	-11.6		43	63	11.3		11.7	+0 58	+11.3	
12	22	9.7	9.5	10.1	+0 47	+26.7		44	64	11.3		11.8	+0 41	-5.2	
13	23	9.8		10.1	-2 33	-23.6		45	65	11.4		11.8	+0 48	-0.1	
14	26	9.9	9.5	10.3	+1 29	-18.1		46	67	11.5		11.8	-0 32	+2.6	„ 11.4 m
15	27	9.9	9.5	10.3	-2 35	-21.4		47	67	11.5		11.8	-0 31	-3.5	
16	27	9.9	9.5	10.3	+1 21	+21.9		48	68	11.5		11.9	-0 32	+14.2	
17	29	10.0		10.4	-1 56	+17.8		49	70	11.6		12.0	-0 39	-2.3	„ 11.3 n
18	29	10.0		10.4	+1 6	+6.3		50	73	11.7		12.1	+0 57	+2.2	
19	31	10.1		10.5	+0 37	-0.5	„ 10.3 f	51	74	11.7		12.1	+1 19	+7.3	
20	31	10.1		10.5	-0 12	-11.6		52	74	11.7		12.1	0 0	+7.0	
21	32	10.1		10.5	+0 42	+6.4		53	77	11.8		12.3	+0 12	+6.7	
22	33	10.2		10.6	+1 24	-21.6		54	81	12.0		12.4	-0 17	-3.5	„ 12.0 h
23	34	10.2		10.6	-1 11	-3.9		55	94	12.5		12.9	-0 1	-2.6	„ 12.6 u
24	35	10.2	9.5	10.7	+1 32	-4.9							-0 7	-0.5	„ 13.2 w
25	41	10.5	9.5	10.9	+1 22	-7.5							+0 6	-1.4	„ 13.5 z
26	43	10.5		10.9	-0 57	-12.7							-0 6	-1.3	„ 13.8 $\alpha$
27	43	10.5		10.9	-0 3	-6.8							-0 11	-0.7	„ 13.8 y
28	44	10.6		11.0	-1 9	+9.0							-0 6	+0.4	„ 14.4 $\beta$
29	45	10.6		11.0	-1 16	+2.2							-0 3	+0.2	„ 14.8 $\gamma$
30	45	10.6		11.0	-0 30	+16.8									
31	47	10.7		11.1	-0 5	+9.1									
32	48	10.7		11.1	-0 36	0.0	„ 10.8 d								

\* Parkhurst, Researches in Stell. Photom. 1906 p. 47, Tab. 26 (magnitudines et litterae).

\*\* BD.  $+ 43^\circ 46'$ ; vide AN. 3917.

$$M = 9.2 + 0.038 (G - 7.7).$$

1166

## X Ceti

 $3^{\text{h}} 12^{\text{m}} 4^{\text{s}}$  (1855.0)  $-1^{\circ} 35'.7$ Max. = 2 411 401<sup>d</sup> (2. Febr. 1890) + 182<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .2	5 <sup>M</sup> .6	-1 <sup>m</sup> 6 <sup>s</sup>	+ 8'.3		16	85	11 <sup>M</sup> .0		11 <sup>M</sup> .6	-0 <sup>m</sup> 27 <sup>s</sup>	- 9'.3	
2	0	8 <sup>M</sup> .0	7.7	7.9	+0 38	-31.9		17	87	11.1		11.7	+0 39	+18.6	
3	13	8.5	8.6	8.4	+1 44	+32.3		18	89	11.1		11.8	+0 33	-17.0	
4	25	8.9	8.8	8.9	-0 53	-33.2		19	91	11.2		11.9	-0 24	+15.5	
5	28	9.0	9.1	9.1	+0 45	-28.6		20	92	11.2		12.0	+0 36	-14.2	
6	33	9.2	9.2	9.3	+0 40	-29.3		21	96	11.4		12.2	-0 51	+17.2	
7	36	9.3	9.3	9.4	-0 42	-13.7		22	98	11.4		12.3	-0 9	+ 1.2	
8	36	9.3	9.3	9.4	-0 34	+ 2.7		23	98	11.4		12.3	-0 38	-12.5	
9	42	9.5	9.5	9.6	-0 47	-11.4		24	100	11.5		12.4	+0 8	+11.4	
10	46	9.6	9.5	9.8	+0 56	+10.5		25	105	11.7		12.6	+0 30	+ 5.1	
11	46	9.6	9.5	9.8	-0 21	+ 6.2		26	106	11.7		12.7	+0 43	-21.5	
12	54	9.9	9.5	10.2	-1 5	-29.1		27	110	11.9		12.8	+0 15	+11.8	
13	72	10.5		11.0	-0 36	-12.6		28	116	12.1		13.1	+0 7	- 9.9	
14	75	10.6		11.2	+0 42	- 9.6									
15	82	10.9		11.5	+0 26	+10.6									

$$M = 9.0 + 0.035 (G - 28.3).$$

## T Leporis

 $4^{\text{h}} 58^{\text{m}} 41^{\text{s}}$  (1855.0)  $-22^{\circ} 6'.4$ 

 Max. = 2415343<sup>d</sup> (19. Novemb. 1900) + 366<sup>d</sup>.5 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			3 <sup>M</sup> .7	3 <sup>M</sup> .3	+0 <sup>m</sup> 38 <sup>s</sup>	-27'.9	CoD. 3 <sup>M</sup> .1	28	115	10 <sup>M</sup> .0	10 <sup>M</sup>	11 <sup>M</sup> .3	+1 <sup>m</sup> 38 <sup>s</sup>	-3'.5	CoD. 10 <sup>M</sup>
2	0	8 <sup>M</sup> .0	7.5	7.4	-0 10	+40.6		29	118	10.0	9.8	11.4	+1 0	+9.2	
3	9	8.1	7.7	7.7	+0 26	+38.4		30	119	10.0	9.5	11.4	-0 1	+3.0	„ 9.7
4	23	8.4	8.6	8.2	+0 43	+29.3		31	123	10.1	9.9	11.5	-0 21	+19.4	*
5	53	8.9	9.0	9.3	-2 9	+29.0		32	125	10.1		11.6	+1 30	-9.0	„ 9.7
6	60	9.0	9.2	9.5	-1 20	+21.2	*	33	128	10.2		11.7	-0 59	-6.3	„ 9.8
7	61	9.0	9.1	9.5	-1 20	+26.9		34	133	10.3		11.8	+1 6	+12.3	
8	62	9.1	9.1	9.6	-1 29	-26.4	„ 9.1	35	137	10.3		11.9	+0 57	+6.3	
9	68	9.2	9.2	9.8	+1 16	-16.5	„ 9.3	36	140	10.4		12.0	+0 26	+11.1	
10	72	9.2	9.0	9.9	+0 11	-21.0	„ 9.2	37	141	10.4		12.1	+0 13	-5.2	„ 10
11	73	9.2	9.4	10.0	+1 6	-12.0	„ 9.4	38	147	10.5		12.2	-0 6	+8.2	
12	75	9.3	9.2	10.0	-1 43	-10.8	„ 9.3	39	147	10.5		12.2	-0 52	+6.7	
13	78	9.3	9.3	10.1	-0 45	-18.6	„ 9.3	40	150	10.5		12.3	+0 13	+2.2	„ 10
14	81	9.4	9.4	10.2	-1 34	-13.4	„ 9.6	41	152	10.6		12.4	-0 20	-12.7	„ 10
15	84	9.4	9.3	10.3	+1 6	-15.0	„ 9.5	42	153	10.6		12.4	+0 24	+9.6	
16	84	9.4	9.1	10.3	+0 40	+6.9		43	154	10.6		12.5	-0 54	-2.1	
17	88	9.5	9.6	10.4	+0 46	-0.2	„ 9.5	44	156	10.7		12.5	-0 45	+6.7	
18	91	9.5	9.7	10.6	-0 49	-2.6	„ 9.5	45	159	10.7		12.6	+0 4	+13.0	
19	95	9.6	9.5	10.7	-1 16	-12.0	„ 9.4	46	159	10.7		12.6	-0 55	+6.9	
20	97	9.6	9.5	10.7	-0 35	+17.1		47	162	10.8		12.7	-0 21	+5.8	
21	100	9.7	9.9	10.8	+1 36	-5.5	„ 9.8	48	164	10.8		12.8	+0 55	0.0	
22	100	9.7	9.5	10.8	-1 46	-2.4	„ 9.6	49	168	10.9		12.9	+0 51	-5.7	
23	103	9.7	9.7	10.9	-1 49	+18.0		50	170	10.9		13.0	+0 16	-6.6	
24	104	9.8	9.5	10.9	-0 12	+14.4		51	174	11.0		13.1	-0 21	-0.6	
25	106	9.8	9.5	11.0	+0 12	+11.5		52	175	11.0		13.1	+0 26	-0.2	
26	111	9.9		11.2	-0 27	+1.5	„ 9.5								
27	114	9.9	9.8	11.3	+1 22	+2.0	„ 9.7								

\* Locus BD. -21° 1062 respondet huius stellae A. R. et Decl. alterius.

$$M = 9.2 + 0.017 (G - 70.7).$$

1921

## W Aurigae

 $5^h 17^m 6^s$  (1855.0)  $+36^\circ 46'.2$ Max. = 2 414 648<sup>d</sup> (24. Decemb. 1898)  $+ 276^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .3	5 <sup>M</sup> .2	-2 <sup>m</sup> 17 <sup>s</sup>	+29'.0	$\sigma$ Aurigae	36	43	9 <sup>M</sup> .8	9 <sup>M</sup> .5	10 <sup>M</sup> .6	-0 <sup>m</sup> 34 <sup>s</sup>	-3'.0	P. 10 <sup>M</sup> .4 s
2			6.8	6.9	-3 1	-30.8	PD. 5 <sup>M</sup> .16 RG--	37	43	9.8	9.5	10.6	-1 27	-9.4	
3			7.8		+4 30	-6.7	„ 6.98 GW	38	43	9.8	9.5	10.6	-1 31	-21.2	
4	0	8 <sup>M</sup> .3	8.5	8.4	+1 19	+19.9	P. 8.7 o'*	39	44	9.8	9.5	10.6	-2 38	+8.1	
5	4	8.4	8.7	8.5	-3 12	-8.3		40	44	9.8	9.5	10.6	+2 45	-23.9	
6	7	8.5	8.4	8.7	-1 58	+20.9		41	44	9.8	9.5	10.6	+1 2	+24.7	
7	10	8.6	9.0	8.8	-0 51	+27.2		42	44	9.8		10.6	-1 37	+6.6	
8	12	8.7	8.9	8.9	+2 26	-12.1		43	45	9.9	9.5	10.7	-0 57	+29.3	
9	13	8.7	8.8	9.0	+0 15	-23.9		44	45	9.9		10.7	-0 46	+5.8	„ f
10	16	8.8	9.2	9.1	+1 12	+6.8	„ 9.4 m'	45	47	9.9	9.5	10.8	-1 19	+12.7	
11	19	9.0	8.8	9.3	+1 35	-8.3		46	47	9.9		10.8	+2 48	+21.7	
12	20	9.0	9.1	9.3	-0 54	-27.7		47	47	9.9		10.8	-1 21	-5.0	
13	22	9.1	9.2	9.4	+0 55	-21.7		48	47	9.9	9.5	10.8	-2 25	-29.0	
14	24	9.1	8.9	9.5	+0 33	-3.9	„ 9.6 c	49	48	10.0	9.5	10.9	-2 13	-6.2	
15	27	9.2	9.1	9.7	+2 57	+3.6		50	48	10.0	9.5	10.9	+1 21	-7.3	
16	30	9.3	9.3	9.9	+1 50	-11.9		51	49	10.0	9.5	11.0	-1 36	-20.3	
17	32	9.4	9.2	10.0	+1 8	+11.7		52	49	10.0	9.5	11.0	+1 12	+0.4	
18	33	9.4	9.3	10.0	+3 3	+9.4		53	49	10.0		11.0	-0 6	+3.8	„ 10.8 g
19	33	9.4	9.4	10.0	+0 5	-21.7		54	50	10.0	9.5	11.0	+0 50	+9.5	
20	33	9.4	9.1	10.0	-2 3	+8.4		55	51	10.1	9.5	11.1	-2 59	-3.6	
21	33	9.4	9.5	10.0	-0 2	+12.3		56	51	10.1		11.1	-0 11	-8.7	
22	34	9.5	9.5	10.1	+2 49	-6.0		57	51	10.1		11.1	-0 45	-7.5	
23	35	9.5	9.4	10.1	+2 8	-7.0		58	52	10.1		11.1	+0 52	+12.0	
24	37	9.6	9.3	10.2	+2 58	+8.3		59	53	10.1	9.5	11.2	+2 40	-2.8	
25	38	9.6	9.2	10.3	-0 36	+17.8		60	53	10.1		11.2	-0 42	-0.8	„ 11.9 w
26	38	9.6	9.4	10.3	+2 46	+24.0		61	54	10.2		11.3	+1 16	+3.3	
27	38	9.6	9.1	10.3	-2 2	+9.9		62	54	10.2		11.3	+0 2	-1.9	„ 10.9 l
28	39	9.7		10.4	-0 38	+2.4	„ d	63	55	10.2		11.4	-0 20	-6.5	
29	39	9.7	9.5	10.4	-0 30	+3.4	„ 10.4 a	64	55	10.2		11.4	+0 29	+2.6	„ 10.7 z
30	40	9.7	9.5	10.4	+2 39	-2.1		65	56	10.2		11.4	+1 19	-11.7	
31	42	9.8	9.4	10.5	-2 43	+4.5		66	58	10.3		11.5	+0 9	+0.4	„ 11.2 k
32	42	9.8	9.4	10.5	+1 29	+25.3		67	60	10.4		11.7	+0 16	-11.9	
33	42	9.8	9.4	10.5	-1 43	-0.5		68	62	10.5		11.8	-0 38	+11.1	
34	43	9.8	9.5	10.6	-0 43	+3.7	„ 10.0 e	69	65	10.6		12.0	+1 20	-5.4	
35	43	9.8	9.4	10.6	-0 37	+24.0		70	65	10.6		12.0	-0 58	-6.0	

Num.	Gradius	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradius	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
71	65	10 <sup>M</sup> .6		12 <sup>M</sup> .0	-1 <sup>m</sup> 15 <sup>s</sup>	+11'.6		88	79	11 <sup>M</sup> .1		13 <sup>M</sup> .0	+0 <sup>m</sup> 19 <sup>s</sup>	-2'.1	P. 11 <sup>M</sup> .7 q
72	65	10.6		12.0	-0 7	+1.9	P. 11 <sup>M</sup> .6 h	89	80	11.1		13.1	+0 22	+5.4	
73	66	10.6		12.1	-1 6	+8.9		90	80	11.1		13.1	-1 9	+9.6	
74	66	10.6		12.1	-1 29	0.0									
75	67	10.6		12.2	-0 30	+5.7		91	81	11.1		13.2	-0 18	-6.0	
								92	81	11.1		13.2	-0 6	+0.8	dpl. **
76	69	10.7		12.3	+0 19	-5.1	„ 11.9 r						+0 4	+3.0	P. 11.9 n
77	70	10.7		12.4	+1 25	+3.1							-0 26	+0.4	„ 12.1 t
78	70	10.7		12.4	+0 16	-2.7	„ 11.7 p						-0 26	-0.7	„ 12.3 u
79	70	10.7		12.4	-1 1	+11.8									
80	72	10.8		12.5	+0 39	-11.4							-0 7	+0.9	„ 12.4 y
													-0 5	+0.9	„ 12.6 x
81	72	10.8		12.5	-0 14	-14.4							+0 8	-1.6	„ 13.4 $\mu$
82	73	10.8		12.6	+0 39	-12.6							+0 4	+0.6	„ 13.6 $\beta$
83	73	10.8		12.6	-1 19	0.0							+0 7	+0.9	„ 13.7 $\alpha$
84	74	10.9		12.6	+0 15	+6.9									
85	75	10.9		12.7	-0 4	+5.4	„ 11.6 m						0 0	-0.9	„ 14.1 $\eta$
													+0 8	-0.8	„ 14.1 $\theta$
86	75	10.9		12.7	-1 4	+8.4							+0 4	+1.1	„ 14.3 $\gamma$
87	77	11.0		12.9	-0 24	-10.5							+0 1	-1.1	„ 14.3 $\epsilon$

\* Parkhurst, APJ. vol. 18, 1903 p. 312, Tab. III (magnitudines et litterae).

\*\* 92 = Parkhurst (y + x).

$$M = 8.9 + 0.035 (G - 17.5).$$

2000

## RR Tauri

 $5^{\text{h}} 30^{\text{m}} 30^{\text{s}}$  (1855.0)  $+26^{\circ} 17'.1$ Periodus = 210<sup>d</sup>?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .7	5 <sup>M</sup> .0	+0 <sup>m</sup> 15 <sup>s</sup>	-29'.0	125 Tauri PD. 5 <sup>M</sup> .43 GW ,, 6.06 W+ ,, 6.59 WG+	28	55	10 <sup>M</sup> .0		10 <sup>M</sup> .4	+1 <sup>m</sup> 13 <sup>s</sup>	+12'.9	
2			6.7	5.7	-2 24	+32.6		29	59	10.1	9 <sup>M</sup> .5	10.6	0 0	- 2.7	
3			6.8	6.5	-0 34	+14.6		30	59	10.1	9.5	10.6	+0 27	+ 0.1	
4	0	8 <sup>M</sup> .2	8.3	8.0	-1 50	- 9.5		31	59	10.1		10.6	-0 21	+ 0.3	
5	4	8.3	8.0	8.2	+2 5	+14.7		32	60	10.1		10.7	-0 14	+ 8.1	
6	7	8.4	8.5	8.3	+2 22	- 6.5		33	65	10.3	9.5	10.9	+1 21	-11.4	
7	11	8.5	8.6	8.5	+2 28	- 5.7		34	69	10.4	9.5	11.1	+0 57	- 7.5	
8	16	8.7	9.0	8.7	+1 34	-14.7		35	71	10.5		11.1	-0 19	-24.6	*
9	18	8.8	8.9	8.8	-0 36	- 3.6		36	71	10.5		11.1	-0 27	-24.8	*
10	24	9.0	9.0	9.0	-1 37	-21.8		37	75	10.6		11.3	+0 35	- 1.2	
11	27	9.1	9.0	9.2	+1 1	-22.8		38	78	10.7		11.5	-0 33	+ 3.3	
12	28	9.1	9.3	9.2	-2 1	+17.1		39	82	10.8		11.7	-0 44	+ 4.2	
13	31	9.2	9.2	9.3	-0 46	+23.3		40	85	10.9		11.8	+0 47	- 9.2	
14	33	9.2	9.4	9.4	+1 24	-30.0		41	87	11.0		11.9	+0 22	- 2.7	
15	33	9.2	9.2	9.4	+0 27	+21.8		42	87	11.0		11.9	-0 32	+ 8.7	
16	35	9.3	9.4	9.5	-1 51	+23.3		43	89	11.0		12.0	+0 18	- 8.7	
17	36	9.3	9.4	9.6	+0 24	-26.4		44	90	11.1		12.1	+0 9	+10.5	
18	36	9.3	9.3	9.6	+0 57	-20.9		45	92	11.1		12.1	+0 17	+12.7	
19	40	9.5	9.2	9.7	-1 58	-18.2		46	94	11.2		12.2	-0 30	-10.3	
20	41	9.5	9.5	9.8	-1 41	+20.6		47	96	11.3		12.3	+0 17	- 6.7	
21	41	9.5	9.4	9.8	-1 57	+27.5		48	96	11.3	9.5	12.3	+1 5	-15.6	
22	43	9.6	9.2	9.9	-0 21	0.0		49	97	11.3		12.4	+0 42	+12.2	
23	45	9.6	9.4	10.0	+1 9	+15.0		50	99	11.4		12.5	+0 34	-12.1	
24	48	9.7	9.5	10.1	-1 18	- 3.5		51	104	11.5		12.7	-0 15	- 9.0	
25	50	9.8	9.5	10.2	-1 3	-14.7		52	104	11.5		12.7	+0 39	+ 5.4	dpl.
26	51	9.8	9.5	10.2	+0 2	+12.7		53	105	11.6		12.7	+0 40	- 5.1	
27	55	10.0	9.5	10.4	-1 1	- 3.0	dpl.	54	109	11.7		12.9	-0 4	+ 2.8	
								55	115	11.9		13.2	+0 3	- 2.7	

\* (35 + 36) = BD. + 25<sup>h</sup> 895. 9<sup>M</sup>.5.

$$M = 9.3 + 0.032 (G - 34.6).$$

## Z &amp; RU Tauri

5<sup>h</sup> 44<sup>m</sup> 10<sup>s</sup> (1855.0) +15° 50'.4Z Max. = 2416 130<sup>d</sup> (15 Jan. 1903) + 516<sup>d</sup> E.RU Max. = 2416 744<sup>d</sup> (20 Sept. 1904) + 592<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .3	8 <sup>M</sup> .4	7 <sup>M</sup> .8	+2 <sup>m</sup> 8 <sup>s</sup>	-22'.9		36	81	10 <sup>M</sup> .1		10 <sup>M</sup> .5	-0 <sup>m</sup> 6 <sup>s</sup>	+ 3'.3	
2	8	8.5	8.5	8.0	+0 31	+27.5		37	82	10.1	9 <sup>M</sup> .5	10.6	+1 11	-19.8	
3	11	8.5	8.4	8.1	+1 40	+27.6		38	83	10.1	9.5	10.6	-1 3	- 5.0	
4	14	8.6	8.4	8.2	+1 15	+16.3		39	83	10.1		10.6	-1 27	+22.8	
5	18	8.7	9.0	8.3	-2 29	+ 7.2		40	83	10.1		10.6	+0 30	+ 1.1	
6	19	8.7	8.7	8.3	-0 30	-16.2		41	85	10.2		10.7	-0 56	+ 9.0	
7	22	8.8	9.0	8.4	+0 44	+25.4		42	85	10.2		10.7	+1 5	-13.5	
8	32	9.0	9.3	8.7	+1 21	-26.9		43	85	10.2		10.7	+0 42	- 7.2	
9	37	9.1	9.0	8.8	-1 56	-23.1		44	85	10.2		10.7	+0 36	- 7.1	
10	40	9.2	9.2	8.9	+0 39	-32.0		45	85	10.2		10.7	+0 4	+11.1	
11	42	9.2		9.0	-0 42	- 0.3	var. ? *	46	86	10.2		10.8	+0 17	+11.2	
12	43	9.2	9.3	9.1	-1 38	+22.5		47	91	10.3		11.0	+0 43	- 1.2	
13	52	9.4	9.3	9.4	-1 22	- 6.0		48	93	10.3		11.1	-0 3	-16.8	
14	57	9.6	9.4	9.6	+1 11	+27.3	dpl.	49	95	10.4		11.2	-1 0	-15.3	
15	60	9.6	9.5	9.7	+0 1	-17.7		50	95	10.4		11.2	-0 44	- 7.8	
16	61	9.6	9.5	9.7	-0 46	+18.3		51	97	10.4		11.3	-0 34	-11.4	
17	61	9.6	9.5	9.7	-1 2	-23.1		52	97	10.4		11.3	+0 7	-12.2	
18	61	9.6	9.4	9.7	+0 40	-14.7		53	100	10.5		11.4	-0 11	-10.5	
19	61	9.6	9.5	9.7	+0 1	-21.0		54	101	10.5		11.5	+0 48	+ 6.7	
20	62	9.7	9.4	9.8	-2 19	+12.8		55	102	10.5		11.5	+0 6	- 3.3	
21	64	9.7	9.5	9.8	+0 33	-29.9		56	102	10.5		11.5	-0 24	- 1.2	
22	65	9.7	9.4	9.9	+0 36	- 6.9		57	103	10.6		11.6	-0 22	- 8.3	
23	66	9.8	9.4	9.9	+0 24	+20.3		58	103	10.6		11.6	-0 12	+ 4.1	
24	67	9.8	9.5	10.0	+1 34	0.0		59	104	10.6		11.6	-0 30	- 1.3	
25	71	9.9		10.1	-0 31	+ 8.2		60	104	10.6		11.6	-0 8	- 2.2	
26	72	9.9	9.4	10.1	-0 39	+ 2.9		61	105	10.6		11.7	-0 21	-12.6	
27	73	9.9	9.5	10.2	-2 2	+ 4.4		62	105	10.6		11.7	-0 35	-17.4	
28	73	9.9	9.5	10.2	-0 19	+ 1.5		63	105	10.6		11.7	-0 59	+ 3.3	
29	74	9.9	9.5	10.2	-1 2	- 9.7		64	105	10.6		11.7	-1 3	- 5.7	
30	74	9.9		10.2	+0 47	+ 0.2		65	106	10.6		11.8	-0 49	- 2.7	
31	75	9.9	9.5	10.3	-0 27	-29.6		66	107	10.7		11.8	+0 18	-11.8	
32	76	10.0	9.5	10.3	+0 23	+16.1	dpl.	67	107	10.7		11.8	-0 18	-13.2	
33	76	10.0		10.3	+0 31	- 8.7	**	68	108	10.7		11.9	-0 35	-17.9	
34	77	10.0	9.5	10.4	-0 12	+ 3.5		69	108	10.7		11.9	-0 26	+ 0.9	
35	81	10.1		10.5	+0 9	+ 6.4		70	109	10.7		12.0	-1 4	-10.0	

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
71	111	10 <sup>M</sup> .7		12 <sup>M</sup> .1	-0 <sup>m</sup> 9 <sup>s</sup>	0'.0		83	122	11 <sup>M</sup> .0		12 <sup>M</sup> .7	+0 <sup>m</sup> 26 <sup>s</sup>	+11'.6	
72	111	10.7		12.1	-0 41	- 3.0		84	122	11.0		12.7	+0 1	- 1.5	
73	111	10.7		12.1	-0 38	- 6.2		85	122	11.0		12.7	-0 8	- 4.3	
74	111	10.7		12.1	-0 45	+ 9.9		86	122	11.0		12.7	-0 7	+ 2.4	
75	113	10.8		12.2	-0 46	+ 7.2		87	123	11.0		12.8	+0 22	- 2.7	
76	114	10.8		12.2	+0 16	- 9.6		88	123	11.0		12.8	+0 15	+ 3.6	
77	115	10.8		12.3	-0 18	+ 0.5		89	123	11.0		12.8	-0 4	+ 0.9	
78	116	10.9		12.4	-0 42	+ 5.1		90	124	11.0		12.8	+0 4	- 8.1	
79	116	10.9		12.4	+0 3	- 0.9		Z			var.		-0 6	- 5.2	
80	118	10.9		12.5	+0 35	- 2.5		RU			var.		+0 6	+ 5.2	
81	121	11.0		12.6	-0 16	- 3.8									
82	121	11.0		12.6	-0 14	-13.8									

\* Designata RS Tauri in AN. 3914; vide Pickering, Cat. II, 1907, notam ad 054615 b.

\*\* Var.? vide AN. vol. 161 p. 211. De ambabus vide Graff in AN. vol. 166 pp. 261-262.

$$M = 9.2 + 0.022 (G - 41.0).$$

2186

## X Aurigae

 $6^h 0^m 55^s$  (1855.0)  $+50^\circ 15'.1$ Max. = 2 416 100<sup>d</sup> (16. Dec. 1902)  $+ 161^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .4	8 <sup>M</sup> .2	8 <sup>M</sup> .4	-4 <sup>m</sup> 11 <sup>s</sup>	+21'.0	G. 8 <sup>M</sup> .5 b*	28	94	11 <sup>M</sup> .0		11 <sup>M</sup> .6	+1 <sup>m</sup> 12 <sup>s</sup>	+14'.2	
2	4	8.5	8.5	8.5	-2 15	- 4.2		29	100	11.2		11.8	+1 7	- 0.1	
3	5	8.5	8.7	8.6	-3 39	-17.8		30	105	11.3		11.9	-1 30	- 9.7	
4	6	8.5	8.8	8.6	+2 16	+32.9									
5	8	8.6	8.3	8.7	+0 10	-17.3		„ 8.7 a	31	109	11.4		12.0	+0 40	
								32	110	11.4		12.1	+1 15	- 8.1	
6	11	8.7	8.7	8.8	+0 28	+23.2	„ 8.7 c	33	116	11.6		12.2	+1 16	- 3.3	
7	27	9.1	9.5	9.4	-1 33	+24.1		34	118	11.7		12.3	-0 36	+17.3	**
8	31	9.2	9.4	9.5	+3 4	- 0.8		35	118	11.7		12.3	-0 10	-13.8	
9	33	9.3		9.6	+0 7	-18.0									
10	35	9.3	9.4	9.7	+2 51	+ 3.0		36	121	11.7		12.4	-0 10	- 5.2	G. 11 <sup>M</sup> .1 m
								37	121	11.7		12.4	-0 47	+ 5.9	
11	39	9.4	9.5	9.8	-1 28	+26.2		38	125	11.9		12.5	-0 1	- 7.2	
12	39	9.4		9.8	-1 56	+27.4		39	126	11.9		12.5	-0 47	+ 3.0	
13	41	9.5		9.9	+1 52	-11.4		40	126	11.9		12.5	-1 8	+ 0.8	
14	43	9.6	9.5	10.0	+1 51	+18.6									
15	44	9.6		10.0	+2 15	-11.7		41	128	11.9		12.5	+1 5	+ 5.8	
								42	130	12.0		12.6	-1 16	+ 6.6	
16	45	9.6		10.1	-0 16	- 4.4	„ 9.8 f	43	130	12.0		12.6	+0 40	- 6.6	
17	51	9.8	9.5	10.3	-0 37	+26.7		44	131	12.0		12.6	+0 3	+ 8.4	
18	54	9.9	9.5	10.4	+1 55	+ 7.1		45	132	12.1		12.6	-0 5	- 5.4	„ 11.0 n
19	57	10.0	9.4	10.5	+0 35	+13.9									
20	62	10.1		10.6	+0 22	+ 6.6		46	133	12.1		12.6	-0 17	- 7.8	
								47	133	12.1		12.6	+0 1	+ 9.9	
21	66	10.2	9.5	10.8	+2 27	- 5.9		48	135	12.1		12.7	+0 46	- 8.1	
22	69	10.3		10.9	-0 48	+21.1		49	139	12.2		12.8	-1 9	+11.4	
23	72	10.4		11.0	-0 36	+17.1	**	50	141	12.3		12.9	+0 18	- 2.7	
24	76	10.5		11.1	-0 40	+ 0.8	„ 10.3 g								
25	78	10.5		11.2	+1 58	+ 2.1		51	145	12.4		13.0	-0 52	+ 5.4	
								52	147	12.5		13.0	-0 23	+ 3.8	
26	85	10.7		11.4	-0 29	- 5.8	„ 10.5 h	53	151	12.6		13.1	-0 16	+ 5.9	
27	90	10.9		11.5	-0 55	+17.9		54	155	12.7		13.2	-0 4	+ 1.0	„ 12.4 k

\* Graff, A. N. 3925 (magnitudines et litterae).

\*\* (23 + 34) = BD.  $+50^\circ 12' 79''$ , 9<sup>M</sup>.5.

$$M = 8.5 + 0.028 (G - 5.2).$$

## V Monocerotis\*

6<sup>h</sup> 15<sup>m</sup> 25<sup>s</sup> (1855.0) — 2° 7'.7Max. = 2 409 509<sup>d</sup> (28 Nov. 1884) + 332<sup>d</sup>.9 E.

Num.	Gradus	Magn.	BD.**	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .5	5 <sup>M</sup> .7	+3 <sup>m</sup> 54 <sup>s</sup>	+41'.9		38	126	10 <sup>M</sup> .3	10 <sup>M</sup>	11 <sup>M</sup> .2	-0 <sup>m</sup> 39 <sup>s</sup>	-14'.7	
2	0	7 <sup>M</sup> .2	7.2	6.6	+1 49	+46.9		39	126	10.3		11.2	+0 12	+ 1.8	
3	26	7.8	7.8	7.8	-0 13	-30.7		40	126	10.3		11.2	-0 9	+ 4.4	
4	34	8.0	8.1	8.0	-2 28	+ 8.3		41	127	10.4		11.2	+1 25	+ 7.4	
5	58	8.6	8.8	8.9	-0 23	+29.4		42	127	10.4		11.2	-0 5	-14.8	
6	60	8.7	8.5	8.9	-0 43	+ 9.8		43	129	10.4		11.3	-0 43	+ 0.3	
7	65	8.8	8.8	9.1	+0 25	-27.5		44	130	10.4		11.4	+0 10	+ 3.8	
8	67	8.9	9.0	9.2	-0 26	+24.2		45	130	10.4		11.4	+0 34	+ 5.8	
9	69	8.9	9.0	9.3	-0 9	+ 6.1		46	133	10.5		11.5	-0 55	- 8.9	
10	73	9.0	9.1	9.4	-1 46	- 7.5		47	136	10.6		11.6	+0 30	+ 6.6	
11	74	9.0	9.1	9.4	+2 3	+24.4		48	141	10.7		11.8	-0 23	- 3.6	
12	75	9.1	9.0	9.5	-0 28	-14.9		49	144	10.8		11.9	+0 41	- 6.0	
13	76	9.1	9.2	9.5	+1 19	-12.9		50	148	10.9		12.0	+0 41	-14.1	
14	80	9.2	9.1	9.6	-2 18	+ 6.2		51	150	10.9		12.1	+0 14	- 7.1	
15	85	9.3	9.3	9.8	+1 25	+15.2		52	152	11.0		12.2	+0 34	-13.8	
16	88	9.4	9.5	9.9	-1 31	- 0.9		53	152	11.0		12.2	-0 42	- 0.3	
17	93	9.5	9.5	10.1	+0 49	+19.2		54	154	11.0		12.3	-0 7	+ 2.9	
18	93	9.5	9.6	10.1	+0 37	+12.6		55	155	11.1		12.3	-0 47	+ 9.9	
19	95	9.6	9.5	10.2	-0 54	+30.0		56	156	11.1		12.4	+0 31	- 0.1	
20	98	9.6	9.5	10.3	-1 58	+18.0		57	156	11.1		12.4	+0 31	- 6.9	
21	99	9.7	9.5	10.3	+0 29	-18.6		58	157	11.1		12.4	-0 39	-12.7	
22	102	9.7	9.5	10.4	-0 34	+ 9.3		59	160	11.2		12.5	+0 10	- 7.7	
23	103	9.8	9.6	10.4	+0 37	- 8.4		60	162	11.2		12.6	+0 6	+11.9	
24	105	9.8	9.5	10.5	-1 28	+22.0		61	166	11.3		12.8	+0 8	-11.7	
25	105	9.8	9.8	10.5	+0 34	+ 7.8		62	166	11.3		12.8	+0 42	-14.4	
26	107	9.9		10.5	+0 52	+ 0.7		63	166	11.3		12.8	-0 3	+11.9	
27	110	9.9	9.5	10.6	+1 6	+13.9		64	170	11.4		12.9	+0 34	-12.0	
28	111	10.0	9.8	10.7	-0 36	-26.8		65	171	11.5		13.0	-0 14	+12.1	
29	113	10.0		10.8	-1 6	-18.0		66	173	11.5		13.1	-0 3	+14.4	
30	115	10.1	9.5	10.8	+1 19	+ 7.8		67	174	11.5		13.1	+0 44	- 6.9	
31	115	10.1		10.8	+0 33	+10.8		68	176	11.6		13.2	+0 52	-12.3	
32	118	10.1		10.9	-1 37	+ 4.2		69	178	11.6		13.3	+0 39	- 4.2	
33	119	10.2	9.8	11.0	-0 50	-19.2		70	180	11.7		13.4	+0 54	-14.1	
34	119	10.2		11.0	-0 6	- 6.7		71	182	11.7		13.5	+0 13	+ 9.0	
35	119	10.2		11.0	+0 30	+12.1		72	182	11.7		13.5	+0 1	+ 2.1	
36	123	10.3		11.1	-0 43	- 5.9		73	183	11.8		13.6	+0 15	- 0.2	
37	124	10.3		11.1	+0 19	+19.8									

\* Etiam in Serie IV.

\*\* Omnes magnitudines Cl. Schönfeld.

$$M = 9.0 + 0.025 (G - 72.7).$$

## R Monocerotis \*

6<sup>h</sup> 31<sup>m</sup> 15<sup>s</sup> (1855.0) + 8° 51'.6

Variatio irregularis.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .7	7 <sup>M</sup> .0	6 <sup>M</sup> .7	+1 <sup>m</sup> 59 <sup>s</sup>	+15'.2	PD. 7 <sup>M</sup> .25 WG, sf " 8.28 GW, np } $\Sigma$ 953	38	89	10 <sup>M</sup> .4		11 <sup>M</sup> .3	+0 <sup>m</sup> 48 <sup>s</sup>	- 5'.3	
2	11	8.0			+1 59	+15.3		39	89	10.4		11.3	-1 3	+ 7.2	
3	11	8.0			-1 39	+24.3		40	90	10.4		11.4	-1 5	-13.8	
4	19	8.3			+1 13	-35.1		41	90	10.4		11.4	-0 48	+ 5.3	
5	28	8.5			-0 33	+25.5		42	91	10.4		11.4	+0 14	-15.3	
6	29	8.6	8.4	8.4	-0 43	-14.9		43	94	10.5		11.5	+0 34	+12.0	
7	32	8.6	8.5	8.6	-1 33	+11.1		44	94	10.5		11.5	-0 19	- 6.0	
8	35	8.7	8.9	8.7	+0 25	-23.2		45	94	10.5		11.5	-0 44	+12.5	
9	37	8.8	9.2	8.8	+0 49	-11.9		46	109	11.0		12.2	+0 11	+14.5	
10	39	8.9	9.1	8.9	+1 28	-14.2		47	109	11.0		12.2	-1 3	+ 3.8	
11	41	8.9	9.3	9.0	+0 50	-27.8	var. ?	48	111	11.0		12.3	-0 22	+11.4	
12	43	9.0	9.3	9.1	+1 31	-15.4		49	112	11.0		12.3	+0 6	- 8.3	
13	(47)	9.1	8.9	9.3	+0 8	- 5.7		50	112	11.0		12.3	-1 0	+12.9	
14	48	9.1	9.3	9.4	+0 58	-22.1		51	114	11.1		12.4	-0 30	+ 8.4	
15	52	9.2	9.3	9.5	-0 28	-12.2		52	(115)	11.1		12.5	-0 54	- 5.4	
16	54	9.3	9.2	9.6	-1 31	-15.8	* *	53	116	11.2		12.5	+0 41	+10.2	
17	55	9.3	9.0	9.7	-1 17	+11.2		54	116	11.2		12.5	-0 49	- 2.7	
18	56	9.4	9.4	9.8	-1 47	+21.0		55	121	11.3		12.7	+0 33	- 5.9	
19	60	9.5		9.9	-0 24	+ 5.8		56	121	11.3		12.7	-1 7	- 4.2	
20	63	9.6		10.1	-0 26	+17.6		57	122	11.3		12.8	+0 38	- 6.5	
21	64	9.6	9.3	10.1	+0 6	+ 1.8	* * * *	58	122	11.3		12.8	+0 38	+ 8.1	
22	70	9.8	9.5	10.4	+0 18	-11.1		59	122	11.3		12.8	+0 29	-11.4	
23	70	9.8	9.5	10.4	+1 12	-23.9		60	123	11.4		12.8	-1 1	- 0.9	
24	71	9.8	9.3	10.5	-1 36	+ 0.8		61	(123)	11.4		12.8	-0 56	- 5.4	
25	75	9.9	9.5	10.6	-1 13	+20.1		62	125	11.4		12.9	-0 15	- 2.4	
26	77	10.0		10.7	+0 6	- 9.6	* * * *	63	125	11.4		12.9	+0 38	- 3.9	
27	80	10.1		10.9	-0 30	+13.7		64	126	11.5		13.0	+0 15	+ 0.6	
28	80	10.1		10.9	-1 2	- 5.1		65	129	11.6		13.1	+0 35	+ 8.9	
29	80	10.1		10.9	+1 4	-18.6		66	129	11.6		13.1	-0 48	+ 4.4	
30	81	10.1	9.5	10.9	+0 44	- 3.0		67	130	11.6		13.1	+0 15	+ 1.2	
31	83	10.2		11.0	-0 25	+ 4.8	* *	68	130	11.6		13.1	+0 18	+ 7.2	
32	84	10.2		11.1	+0 10	-15.6		69	131	11.6		13.2	-1 3	- 2.9	
33	85	10.2		11.1	-1 30	+18.7		70	133	11.7		13.3	-0 9	+ 3.8	
34	86	10.3		11.2	+0 45	- 4.2		71	133	11.7		13.3	-0 10	- 2.4	
35	86	10.3		11.2	-0 27	+14.2		72	134	11.7		13.3	-0 15	- 3.6	
36	87	10.3		11.2	+0 44	+ 8.1	* * *	73	135	11.7		13.4	-0 13	+ 3.9	
37	89	10.4		11.3	-1 29	+18.8							-0 1	- 2.3	var. ? Picke Cat. II

\* In nebula N.G.C. 2261.

\*\* (19 + 31) = BD. + 8° 1424, 9<sup>M</sup>.5.

\*\*\* (33 + 37) = BD. + 9° 1308, 9.4.

\*\*\*\* (27 + 35) = BD. + 9° 1318, 9.5.

$$M = 9.0 + 0.030 (G - 43.8).$$

2376

## S Lyncis

 $6^h 32^m 3^s$  (1855.0)  $+58^\circ 2'.7$ Max. = 2414265<sup>d</sup> (6 Dec. 1897) + 298<sup>d</sup>.1 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .2	8 <sup>M</sup> .0	7 <sup>M</sup> .7	+2 <sup>m</sup> 5 <sup>s</sup>	- 8'.3		24	59	10 <sup>M</sup> .1		11 <sup>M</sup> .0	+4 <sup>m</sup> 1 <sup>s</sup>	- 7'.0	* *
2	7	8.4	8.8	8.1	-1 1	+32.9		25	60	10.1		11.1	+1 27	- 2.4	
3	10	8.5	8.7	8.3	-1 42	+ 6.0		26	65	10.3		11.3	-1 22	+13.8	
4	11	8.5	8.5	8.4	+0 7	+18.2		27	69	10.4		11.5	-0 33	-11.8	
5	15	8.7	8.6	8.6	-1 31	+22.7		28	71	10.5		11.6	+0 46	- 2.7	
6	16	8.7	8.6	8.6	-1 39	+23.1		29	73	10.6		11.7	-0 55	+12.9	
7	16	8.7	8.9	8.6	-3 36	+ 6.0		30	74	10.6		11.8	-2 14	- 2.1	
8	22	8.9	8.7	9.0	+2 52	-14.7		31	75	10.6		11.9	-0 31	+11.7	
9	24	9.0	9.0	9.1	+0 47	-24.7		32	79	10.8		12.0	-2 8	- 9.3	
10	28	9.1	9.3	9.3	+1 32	+ 2.1		33	84	10.9		12.3	-0 18	-12.7	
11	34	9.3	9.2	9.6	-1 6	-28.1		34	85	11.0		12.3	+0 5	- 5.3	
12	35	9.3	9.4	9.7	+1 57	+ 8.9		35	89	11.1		12.5	-1 15	- 5.3	
13	37	9.4	9.0	9.8	-0 22	+ 1.5		36	91	11.2		12.6	-0 25	0.0	
14	42	9.6	9.4	10.1	-1 49	-15.3		37	98	11.4		12.9	-0 37	- 1.7	
15	45	9.7	9.5	10.2	+3 47	+ 2.3		38	99	11.4		13.0	-0 43	+11.2	
16	47	9.7		10.3	+0 31	-14.5		39	99	11.4		13.0	-0 13	- 2.1	
17	50	9.8		10.5	-1 7	+25.2	*	40	100	11.5		13.0	-0 30	+12.0	
18	51	9.8		10.6	+4 0	- 7.9	**	41	101	11.5		13.1	+1 10	+ 9.3	
19	53	9.9	9.5	10.7	-3 36	- 0.6		42	101	11.5		13.1	-0 17	+ 5.9	
20	55	10.0		10.8	-0 34	-19.2		43	103	11.6		13.1	+0 35	+ 0.5	dpl.
21	55	10.0		10.8	-0 59	+25.1	*	44	104	11.6		13.2	-0 51	-12.0	
22	57	10.0		10.9	+1 17	+ 5.3		45	109	11.8		13.4	+0 10	- 6.3	
23	59	10.1		11.0	-0 41	-15.1									

\* (17 + 21) = BD. + 58° 958, 9<sup>M</sup>.5.

\*\* (18 + 24) = BD. + 57° 1007, 9.4.

$$M = 8.7 + 0.033 (G - 16.2).$$

## X Geminorum

6<sup>h</sup> 37<sup>m</sup> 50<sup>s</sup> (1855.0) + 30° 25'.6Max. = 2 414 234<sup>d</sup> (5 Nov. 1897) + 262<sup>d</sup>.7 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .0	7 <sup>M</sup> .1	-1 <sup>m</sup> 59 <sup>s</sup>	+32'.6	Σ 957 PD. 7 <sup>M</sup> .52 GW N 3 *	36	86	10 <sup>M</sup> .5		11 <sup>M</sup> .7	+0 <sup>m</sup> 9 <sup>s</sup>	+ 2'.1	{ B*** 11 <sup>M</sup> .2 n. 9
2	0	7 <sup>M</sup> .7	8.2	7.9	-0 32	-26.6		37	89	10.6		11.8	-0 22	+ 6.1	
3	3	7.8	7.8	8.0	+0 38	- 9.6		38	89	10.6		11.8	-0 11	+23.0	
4	12	8.1	8.2	8.4	+0 23	+20.9		39	92	10.7		11.9	-0 6	+ 9.0	
5	13	8.1	8.2	8.5	-2 34	+12.2		40	97	10.8		12.1	+1 27	+14.3	
6	22	8.4	8.7	8.9	+2 0	- 8.6		41	97	10.8		12.1	+0 39	-14.4	
7	34	8.8	9.0	9.4	-1 18	+10.0	„ 14	42	99	10.9		12.2	-1 10	+ 0.1	
8	36	8.9	8.9	9.5	-1 36	- 5.8	„ 15	43	99	10.9		12.2	+0 43	- 3.1	
9	40	9.0	9.1	9.6	+2 29	+ 6.4		44	102	11.0		12.3	-1 15	-13.0	
10	41	9.0	8.6	9.7	- 2 46	+13.4	„ 13	45	103	11.0		12.4	-0 1	+14.1	
11	42	9.1	8.9	9.7	-1 59	+20.4		46	105	11.1		12.5	-0 16	- 3.9	
12	45	9.2	9.0	9.9	-2 5	-11.3	„ 20	47	106	11.1		12.5	-0 32	+12.1	
13	51	9.3	9.2	10.1	-1 20	-23.6	„ 23	48	106	11.1		12.5	-0 37	- 6.6	
14	54	9.4	9.3	10.3	-1 16	+13.8		49	110	11.2		12.7	-0 3	- 1.1	B. 11.8 „ 5
15	55	9.5		10.3	+2 28	- 8.4		50	111	11.3		12.7	-0 2	+21.2	****
16	56	9.5	9.5	10.4	+1 34	-16.9		51	111	11.3		12.7	-0 32	+ 2.4	
17	58	9.6	9.3	10.4	-0 24	-17.9	„ 25	52	111	11.3		12.7	+1 1	+ 6.6	
18	61	9.7	9.5	10.6	-2 5	-26.0	„ 28	53	113	11.3		12.8	+1 23	+ 0.6	
19	61	9.7		10.6	-2 16	-15.7	„ 30 + 49	54	114	11.4		12.8	+0 28	-10.1	trpl.
20	62	9.7	9.5	10.6	-0 12	+26.3		55	114	11.4		12.8	-1 2	+ 5.1	
21	63	9.7	9.5	10.7	-0 2	-23.3	„ 29	56	117	11.5		12.9	+0 18	+ 3.2	
22	64	9.8		10.7	+1 33	+20.1	**	57	119	11.5		13.0	-0 59	+ 5.4	
23	66	9.8	9.4	10.8	+0 47	-16.4		58	120	11.6		13.1	-0 46	+10.2	
24	66	9.8		10.8	+1 35	+18.8	**	59	120	11.6		13.1	0 0	+ 0.8	B. 12.5 „ 6
25	69	9.9	9.5	10.9	-0 51	-27.9	N 39	60	120	11.6		13.1	+0 55	- 3.1	
26	71	10.0	9.5	11.0	+2 21	+ 2.2		61	122	11.6		13.2	-0 46	+12.6	
27	72	10.0		11.0	-0 1	+20.6	****	62	123	11.6		13.2	+0 53	- 3.6	
28	74	10.1	9.5	11.1	+1 47	-30.2		63	125	11.7		13.3	+0 49	+ 4.4	
29	75	10.1		11.2	-0 14	+18.4							-0 7	- 1.2	„ 13.4 „ 2
30	76	10.1		11.2	-1 11	- 7.9	„ 40						-0 9	- 1.9	„ 13.8 „ 1
31	78	10.2		11.3	-1 2	+12.6							+0 1	+ 0.9	„ 14.2 „ 8
32	79	10.2	9.5	11.3	-2 15	-25.0	„ 41						-0 4	- 1.7	„ 15.0 „ 4
33	80	10.3		11.4	-0 11	+20.3							-0 4	- 1.0	„ 15.3 „ 3
34	80	10.3		11.4	+0 4	- 8.4				Nova			-2 54	-20.3	1903, 5 <sup>M</sup> - < 14 <sup>M</sup> .
35	82	10.3	9.5	11.5	+0 18	- 3.6									

\* Numeri (N) ex „Chart and Catalogue for observing Nova Geminorum“, Washington 1893.

\*\* (22 + 24) = BD. + 30° 1334, 9<sup>M</sup>.5.

\*\*\* Bellamy, Monthly Not. vol. LXIII, 1903 p. 526 (magnit. photograph. et numeri).

\*\*\*\* (27 + 50) = BD. + 30° 1327, 9<sup>M</sup>.5.

$$M = 9.0 + 0.032 (G - 40.3).$$

2468

## Y Monocerotis

 $6^{\text{h}} 48^{\text{m}} 49^{\text{s}}$  (1855.0)  $+ 11^{\circ} 25'.7$ Max. =  $2\,415\,790^{\text{d}}$  (9 Febr. 1902)  $+ 225^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$7^{\text{M}}_0$	$6^{\text{M}}_2$	$+0^{\text{m}}32^{\text{s}}$	$+40'.2$	PD. $6^{\text{M}}_{51}$ GW	26	65	$9^{\text{M}}_9$		$10^{\text{M}}_5$	$+0^{\text{m}}24^{\text{s}}$	$+ 6'.2$	
2	0	$7^{\text{M}}_9$	8.0	7.6	$+0\ 37$	$-16.3$		27	68	9.9		10.7	$+0\ 20$	$+14.7$	
3	4	8.0	8.0	7.8	$-0\ 2$	$+ 9.1$		28	70	10.0	$9^{\text{M}}_5$	10.7	$+0\ 46$	$- 1.2$	
4	10	8.2	8.3	8.0	$-0\ 32$	$-13.2$		29	72	10.1		10.8	$-0\ 8$	$-12.0$	
5	12	8.3	8.3	8.1	$-2\ 5$	$+11.4$		30	73	10.1	9.5	10.9	$-0\ 43$	$+23.3$	
6	16	8.4	8.7	8.3	$+1\ 1$	0.0		31	74	10.1		10.9	$-1\ 38$	$+11.4$	
7	21	8.5	8.5	8.6	$-0\ 14$	$+30.3$		32	74	10.1	9.5	10.9	$+0\ 4$	$+ 4.8$	
8	24	8.6	9.2	8.7	$+0\ 24$	$- 6.6$		33	80	10.3	9.5	11.2	$+0\ 5$	$+ 5.4$	
9	26	8.7	8.8	8.8	$-0\ 47$	$-18.6$		34	80	10.3		11.2	$+0\ 58$	$+ 0.9$	
10	33	8.9	8.6	9.1	$+0\ 23$	$- 5.7$		35	80	10.3		11.2	$+1\ 8$	$- 0.9$	
11	37	9.0	9.4	9.3	$-1\ 17$	$+29.8$	*	36	80	10.3	9.5	11.2	$-1\ 24$	$+14.7$	
12	38	9.0	8.8	9.3	$-1\ 0$	$- 6.0$		37	84	10.4		11.4	$-1\ 6$	$+ 6.0$	
13	44	9.2	9.4	9.6	$+2\ 0$	$- 9.3$		38	89	10.6		11.6	$-1\ 4$	$-11.4$	
14	48	9.3	9.2	9.8	$+0\ 21$	$-14.0$		39	89	10.6		11.6	$-0\ 56$	$+ 4.5$	
15	51	9.4	9.4	9.9	$-1\ 27$	$- 8.7$		40	91	10.6		11.7	$+0\ 15$	$- 0.3$	
16	53	9.5	9.5	10.0	$+1\ 48$	$-15.4$		41	94	10.7		11.8	$-0\ 32$	$- 3.0$	
17	54	9.5	9.5	10.1	$+1\ 33$	$-13.8$		42	95	10.8		11.8	$+0\ 31$	$+11.9$	
18	56	9.6	9.5	10.1	$-1\ 44$	$-20.0$		43	98	10.8		12.0	$+0\ 44$	$- 3.6$	
19	57	9.6	9.4	10.2	$-0\ 45$	$+20.6$		44	99	10.9		12.0	$+0\ 21$	$+ 9.6$	
20	58	9.6	9.5	10.2	$-1\ 40$	$-17.3$		45	103	11.0		12.2	$+0\ 39$	$- 6.9$	
21	58	9.6	9.5	10.2	$+1\ 50$	$+29.3$	*	46	104	11.0		12.2	$+0\ 41$	$-10.2$	
22	60	9.7	9.5	10.3	$+1\ 32$	$+14.1$		47	104	11.0		12.2	$+0\ 42$	$+ 6.9$	
23	60	9.7	9.2	10.3	$+0\ 20$	$-13.8$		48	107	11.1		12.3	$+0\ 47$	$+ 5.7$	
24	63	9.8	9.5	10.4	$+1\ 58$	$+18.4$		49	109	11.2		12.4	$+0\ 44$	$- 6.9$	
25	65	9.9	9.5	10.5	$+1\ 47$	$+12.3$		50	109	11.2	9.5	12.4	$-0\ 38$	$+12.0$	var. ?

\* (14 + 23) =  $\Sigma 995$ .

$$M = 8.7 + 0.030 (G - 26.6).$$

## V Canis Minoris

6<sup>h</sup> 59<sup>m</sup> 4<sup>s</sup> (1855.0) + 9° 5'.6Max. = 2410 174<sup>d</sup> (24 Sept. 1886) + 364<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .6	6 <sup>M</sup> .0	-1 <sup>m</sup> 21 <sup>s</sup>	+18'.7	PD. 5 <sup>M</sup> .89 G--	41	98	10 <sup>M</sup> .0		10 <sup>M</sup> .9	+0 <sup>m</sup> 59 <sup>s</sup>	-14'.2	dpl.
2	0	8 <sup>M</sup> .4	8.5	7.6	-1 54	-20.8		42	100	10.1	9 <sup>M</sup> .5	11.0	+2 0	- 0.6	
3	6	8.5	8.6	7.8	+1 21	-24.2		43	102	10.1		11.0	+0 53	- 1.2	
4	12	8.6	8.4	8.0	-0 16	- 9.5		44	103	10.1		11.1	-0 54	+ 3.1	
5	19	8.7	8.9	8.2	+1 4	+ 4.9		45	105	10.1		11.1	-0 30	+14.9	
6	22	8.7	8.7	8.3	+2 19	- 0.9		46	107	10.2		11.2	+0 7	+ 8.4	
7	25	8.8	8.8	8.4	-1 30	- 6.2		47	107	10.2		11.2	+0 51	- 1.6	
8	28	8.8	8.8	8.5	+1 10	-15.8		48	110	10.2		11.3	-0 34	-12.7	
9	38	9.0	9.0	8.8	+0 25	+20.3		49	113	10.3		11.4	-0 3	- 0.9	
10	41	9.1	9.0	8.9	-0 26	-19.2		50	119	10.4		11.6	+0 26	+ 3.6	
11	43	9.1	9.2	9.0	-0 59	+14.0		51	122	10.4		11.7	+0 16	-10.2	dpl.
12	44	9.1	9.1	9.0	+1 12	-19.4		52	123	10.5		11.8	+0 42	+ 2.4	
13	49	9.2	9.1	9.2	-0 28	-19.8		53	125	10.5		11.8	+0 31	- 7.8	
14	49	9.2	9.1	9.2	-1 14	+28.9		54	130	10.6		12.0	+0 10	- 0.4	
15	49	9.2	9.2	9.2	-0 19	+11.4		55	132	10.6		12.1	-0 3	- 7.8	
16	51	9.2	9.3	9.3	-0 53	+10.6		56	132	10.6		12.1	+0 22	+15.1	
17	55	9.3	9.4	9.4	-1 12	+ 6.6		57	134	10.6		12.2	+0 6	- 2.5	
18	56	9.3	9.4	9.4	-2 0	-16.5		58	137	10.7		12.3	-0 39	+12.3	
19	57	9.3	9.1	9.5	0 0	-16.9		59	138	10.7		12.3	-0 16	-14.7	
20	58	9.4	9.2	9.5	-1 33	+ 1.6		60	141	10.8		12.4	-0 49	+ 5.3	
21	58	9.4		9.5	-1 28	-18.7		61	144	10.8		12.5	-0 13	+ 2.3	dpl.
22	59	9.4		9.5	+0 57	+ 5.2		62	144	10.8		12.5	+0 15	+ 3.8	
23	59	9.4	9.4	9.5	+0 31	+10.2		63	144	10.8		12.5	-0 14	-12.6	
24	60	9.4	9.4	9.6	-1 38	+17.3		64	146	10.8		12.6	+0 48	+ 1.8	
25	61	9.4	9.2	9.6	-1 11	-16.4		65	149	10.9		12.7	-0 39	+13.6	
26	62	9.4	9.3	9.6	+0 50	- 1.2		66	149	10.9		12.7	+0 14	+14.5	
27	65	9.5	9.3	9.7	+1 13	-19.1		67	151	10.9		12.8	+0 33	+13.8	
28	68	9.5	9.5	9.9	0 0	-17.7		68	151	10.9		12.8	+0 26	- 0.3	
29	72	9.6	9.5	10.0	+1 1	+19.1		69	153	11.0		12.9	+0 14	-14.1	
30	76	9.7	9.3	10.1	+0 34	-11.8		70	153	11.0		12.9	+0 22	- 1.2	
31	78	9.7		10.2	-0 11	-11.4		71	154	11.0		12.9	+0 5	+ 3.6	dpl.
32	82	9.8	9.4	10.3	+2 0	+25.1		72	158	11.1		13.0	+0 39	- 8.1	
33	87	9.8	9.5	10.5	-1 47	-27.6		73	163	11.1		13.2	+0 39	- 6.9	
34	88	9.9	9.5	10.5	+1 39	+22.8		74	176	11.4		13.7	+0 12	+ 0.3	
35	88	9.9	9.5	10.5	+0 48	+ 6.9		75	178	11.4		13.7	-0 10	- 1.8	
36	93	9.9	9.5	10.7	-1 44	+16.9		76	178	11.4		13.7	0 0	+ 2.0	
37	94	10.0	9.5	10.7	-1 56	- 3.9		77	179	11.4		13.8	-0 11	- 3.1	
38	94	10.0	9.5	10.7	-0 51	+27.6									
39	96	10.0		10.8	+0 46	+11.8									
40	97	10.0		10.8	-0 22	+ 0.2									

$$M = 9.0 + 0.017 (G - 37.4).$$

3264

## W Cancri

 $9^{\text{h}} 1^{\text{m}} 24^{\text{s}}$  (1855.0)  $+25^{\circ} 50'.1$ Max. =  $2410\ 153^{\text{d}}$  (3 Sept. 1886)  $+384^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$7^{\text{M}}.3$	$6^{\text{M}}.8$	$-2^{\text{m}} 0^{\text{s}}$	$+22'.3$	PD. $7^{\text{M}}.26$ GW	16	76	$10^{\text{M}}.1$		$11^{\text{M}}.1$	$+1^{\text{m}} 52^{\text{s}}$	$-17'.2$	
2	0	$8^{\text{M}}.3$	8.5	7.7	$+1\ 29$	$+10.6$		17	81	10.3		11.3	$-0\ 9$	$+9.0$	
3	10	8.6	8.5	8.2	$-0\ 32$	$+35.0$		18	91	10.5		11.7	$+0\ 37$	$+11.5$	
4	21	8.8	8.7	8.7	$-2\ 8$	$-26.3$		19	98	10.7		11.9	$-1\ 9$	$-11.3$	
5	23	8.9	9.0	8.8	$+1\ 43$	$+10.9$		20	102	10.8		12.1	$+0\ 17$	$-11.2$	
6	30	9.0	9.3	9.1	$-1\ 14$	$-23.6$		21	104	10.8		12.1	$-1\ 2$	$-2.2$	
7	33	9.1	9.0	9.3	$+2\ 3$	$-10.9$		22	106	10.9		12.2	$+0\ 6$	$+13.5$	
8	41	9.3	9.3	9.6	$+2\ 10$	$-0.4$		23	113	11.0		12.4	$+0\ 1$	$-2.1$	
9	44	9.4	9.1	9.8	$+1\ 25$	$+17.4$		24	119	11.2		12.6	$+0\ 4$	$+2.9$	
10	50	9.5		10.0	$+1\ 4$	$+26.0$		25	120	11.2		12.7	$-0\ 36$	$-11.7$	
11	62	9.8		10.5	$+1\ 8$	$-24.5$	*	26	130	11.4		13.0	$-0\ 32$	$-5.1$	
12	63	9.8		10.6	$+0\ 27$	$+5.7$		27	133	11.5		13.1	$+0\ 20$	$-6.7$	
13	66	9.9		10.7	$+0\ 48$	$+16.5$		28	137	11.6		13.2	$+0\ 19$	$+10.0$	
14	68	10.0		10.8	$+1\ 11$	$-27.2$	*	29	143	11.8		13.2	$+0\ 36$	$-3.7$	
15	75	10.1		11.1	$+0\ 53$	$-5.9$		30	155	12.0		13.6	$-0\ 6$	$-1.1$	

\* (11 + 14) = BD.  $+25^{\circ} 20' 55''$ ,  $9^{\text{M}}.5$ .

$$M = 8.9 + 0.024 (G - 24.2).$$

3425

## X Hydrae

 $9^h 28^m 35^s$  (1855.0)  $-14^\circ 2'.8$ Max. = 2413 657<sup>d</sup> (7 Apr. 1896) + 305<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .2	8 <sup>M</sup> .0	7 <sup>M</sup> .9	+1 <sup>m</sup> 48 <sup>s</sup>	- 9'.5		26	126	10 <sup>M</sup> .2	10 <sup>M</sup> .9	10 <sup>M</sup> .9	-0 <sup>m</sup> 9 <sup>s</sup>	+11'.3	
2	21	8.5	8.6	8.5	+0 32	-21.8		27	130	10.3	10 <sup>M</sup>	11.0	+1 22	+26.0	
3	31	8.7	9.0	8.7	+0 43	+12.6		28	137	10.4	9.8	11.1	+1 42	- 6.6	
4	32	8.7	8.5	8.8	+0 42	- 7.0		29	143	10.5	10	11.3	+1 0	- 3.3	
5	35	8.8	9.1	8.8	-1 48	+18.5		30	149	10.6		11.4	-0 20	- 5.7	*
6	42	8.9	9.0	9.0	-0 57	-20.9		31	149	10.6		11.4	-0 35	-15.8	
7	54	9.1	9.1	9.3	+1 14	+ 3.0		32	152	10.6		11.4	+0 32	+14.4	
8	57	9.1	9.4	9.4	-0 51	+17.6		33	156	10.7		11.5	+1 7	- 9.4	
9	59	9.1	9.2	9.4	+1 0	+15.7		34	163	10.8		11.6	+0 46	+ 5.1	
10	63	9.2	9.6	9.5	+1 17	+10.2		35	165	10.8		11.7	-0 54	- 8.9	
11	68	9.3	9.3	9.6	+1 2	+12.2		36	185	11.2		12.0	+0 43	+ 7.0	
12	72	9.3	9.2	9.7	+0 5	- 6.7		37	194	11.3		12.2	-0 3	-10.1	
13	79	9.5	9.5	9.9	+0 51	+ 8.6		38	200	11.4		12.3	+0 38	- 7.8	
14	80	9.5	9.4	9.9	-1 42	- 1.9		39	201	11.4		12.3	+0 36	- 8.8	
15	84	9.5	9.6	10.0	-1 10	- 0.3		40	201	11.4		12.8	-0 31	+14.4	
16	89	9.6	9.8	10.1	-1 20	+ 1.2		41	209	11.5		12.5	-0 39	+ 5.4	
17	93	9.7	9.4	10.2	+1 18	+ 8.6		42	212	11.6		12.5	+0 20	+11.4	
18	103	9.8	9.6	10.4	+0 22	+24.0		43	221	11.7		12.7	+0 16	+ 2.7	
19	106	9.9	10	10.5	-1 21	+12.7		44	225	11.8		12.8	+0 28	- 5.5	
20	109	9.9	9.8	10.6	+1 46	-11.7		45	227	11.8		12.8	+0 9	+ 1.9	
21	114	10.0	10 <sup>M</sup>	10.7	-0 45	+20.8		46	241	12.1		13.0	-0 17	- 0.2	
22	117	10.1		10.7	-0 42	+21.9		47	246	12.1		13.1	-0 3	- 0.7	
23	119	10.1		10.8	-1 36	+ 3.6									
24	122	10.1		10.8	+0 34	+18.5									
25	125	10.2		10.9	-0 24	- 6.4	*								

\* (25 + 30) = BD. - 14<sup>o</sup> 2890, 10<sup>M</sup>.

$$M = 9.4 + 0.016 (G - 75.2).$$

4471

## T Canum Venaticorum\*

 $12^{\text{h}} 23^{\text{m}} 1^{\text{s}}$  (1855.0)  $+32^{\circ} 18'.3$ Max. =  $2\,414\,048^{\text{d}}$  (3 Maii 1897)  $+287^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .5	7 <sup>M</sup> .4	7 <sup>M</sup> .2	+0 <sup>m</sup> 48 <sup>s</sup>	-5'.0	PD. 7 <sup>M</sup> .72 GW	14	76	9 <sup>M</sup> .5	9 <sup>M</sup> .3	10 <sup>M</sup> .6	-1 <sup>m</sup> 51 <sup>s</sup>	-23'.9	
2	12	7.8	7.9	7.7	-1 6	-6.4		15	78	9.6	9.5	10.7	-1 24	+25.1	
3	25	8.2	8.2	8.2	+3 56	+31.1		16	86	9.8		11.1	+0 43	-12.8	
4	45	8.7	8.7	9.1	+0 5	-30.6		17	90	9.9		11.3	+1 24	+2.9	
5	46	8.7	8.6	9.1	+3 12	-24.4		18	97	10.1		11.7	+0 11	-15.0	
6	56	9.0		9.6	+3 11	+32.1	**	19	100	10.2		11.8	+0 58	+3.6	
7	57	9.0	9.1	9.6	+1 24	+30.9		20	105	10.3		12.1	+0 10	+4.4	
8	58	9.1		9.7	+3 11	+32.4		21	112	10.5		12.5	-0 44	-2.3	
9	61	9.1	9.3	9.7	-1 42	+10.2		22	117	10.7		12.8	-0 46	+10.8	
10	63	9.2	9.2	9.9	+1 28	-29.3		23	126	10.9		13.3	+0 38	+0.6	
11	66	9.3	9.1	10.1	+0 18	-26.8		24	135	11.1		13.8	-0 51	-12.3	***
12	67	9.3	9.3	10.1	-1 47	+25.7							+1 4	-2.5	
13	68	9.3	9.4	10.2	+1 0	-11.7									

\* Regio huius chartae nebulosa apparet

\*\* (6 + 8) = BD.  $+32^{\circ} 22'55.8^{\text{M}}.4$ , =  $\Sigma$  1653, HP. 8<sup>M</sup>.8\*\*\* 10<sup>M</sup>.2, 28 Martii 1901; a 3 Junii 1901 non amplius visa.

$$M = 8.7 + 0.027 (G - 44.7).$$

4573

## RU Virginis\*

 $12^h 39^m 56^s$  (1855.0)  $+4^0 56'.5$ Max. =  $2\ 413\ 314^d$  (30 April. 1895)  $+440^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$6^M.7$	$6^M.7$	$+0^m 32^s$	$-34'.6$	{ 35 Virginis PD. $6^M.56$ G	16	56	$10^M.0$	$9^M.5$	$11^M.1$	$+1^m 49^s$	$-7'.1$	
2	0	$8^M.2$	8.3	8.0	+0 45	-41.6		17	59	10.1	9.5	11.3	+0 53	-23.2	
3	9	8.5	8.4	8.5	-1 58	-37.4		18	59	10.1		11.3	+0 48	-11.4	
4	17	8.7	8.3	8.9	+2 17	-19.8		19	62	10.2		11.5	+0 15	+10.5	
5	20	8.8		9.1	+2 17	-19.5		20	66	10.3		11.7	-0 24	-14.8	
6	22	8.9	8.8	9.2	-1 49	-8.8		21	70	10.4		11.9	-0 53	-14.9	
7	27	9.0	9.0	9.5	-1 55	+13.1		22	72	10.5		12.0	+0 57	+2.3	
8	30	9.1	9.3	9.7	+2 2	+4.2		23	76	10.6		12.2	-0 31	-8.1	
9	32	9.2	9.2	9.8	+0 56	-2.1		24	77	10.6		12.3	-1 1	+12.3	
10	35	9.3	9.3	9.9	-1 33	-23.1		25	82	10.8		12.6	-1 1	+12.0	
11	38	9.4	9.5	10.1	-1 52	+18.2		26	87	11.0		12.8	-0 17	-12.6	
12	42	9.5	9.5	10.3	-0 38	-17.7		27	89	11.0		12.9	-0 26	+12.6	
13	44	9.6	9.5	10.5	-0 25	+0.8		28	93	11.1		13.1	-0 2	-3.6	
14	46	9.6	9.5	10.6	-1 17	+8.8		29	95	11.2		13.2	+0 7	-0.1	
15	49	9.7	9.5	10.7	-0 17	+0.6		30	102	11.4		13.6	-0 41	+6.6	

\* Regio huius chartae nebula apparet.

$$M = 8.8 + 0.032 (G - 19.6).$$

5174

## RS Virginis

 $14^{\text{h}} 20^{\text{m}} 1^{\text{s}}$  (1855.0) +  $5^{\circ} 19'.9$ Max. =  $2\,411\,510^{\text{d}}$  (22 Maii 1890) +  $355^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .0	7 <sup>M</sup> .8	7 <sup>M</sup> .6	-1 <sup>m</sup> 21 <sup>s</sup>	+10'.9		14	94	10 <sup>M</sup> .3		11 <sup>M</sup> .3	-1 <sup>m</sup> 11 <sup>s</sup>	-21'.7	
2	6	8.1	8.0	7.8	-4 15	-23.6		15	96	10.4		11.4	-0 34	-16.2	
3	15	8.4	8.5	8.1	+1 24	+32.6		16	104	10.6		11.8	+0 15	+ 0.7	
4	18	8.4	8.4	8.2	0 0	+35.6		17	110	10.7		12.1	-0 39	- 8.9	
5	21	8.5	8.5	8.3	+0 41	-27.6		18	114	10.8		12.3	+0 29	- 6.2	
6	60	9.5	9.5	9.9	+2 6	-19.9		19	117	10.9		12.4	+0 18	+12.7	
7	69	9.7	9.5	10.2	-0 27	-22.0		20	119	10.9		12.5	-1 10	-11.1	
8	71	9.7	9.5	10.3	+1 33	-16.3		21	130	11.2		13.1	+0 6	- 8.4	
9	77	9.9	9.5	10.5	+1 27	-21.4		22	130	11.2		13.1	-0 8	+ 4.2	
10	80	10.0	9.5	10.7	+0 45	+26.1		23	135	11.3		13.4	-0 21	- 3.7	
11	83	10.0		10.8	-0 50	+ 8.2		24	135	11.3		13.4	-0 3	+ 9.0	
12	85	10.1	9.5	10.9	+1 6	-21.3		25	137	11.4		13.5	-0 17	- 1.5	
13	90	10.2		11.1	+0 12	+12.2									

$$M = 8.5 + 0.025 (G - 21).$$

5405

## RT Librae

 $14^{\text{h}} 58^{\text{m}} 14^{\text{s}}$  (1855.0)  $-18^{\circ} 10'.0$ Max. = 2 413 035<sup>d</sup> (25 Iulii 1894) + 252<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .5	7 <sup>M</sup> .9	-0 <sup>m</sup> 13 <sup>s</sup>	-38'.6		19	68	10 <sup>M</sup> .1	10 <sup>M</sup>	11 <sup>M</sup> .1	-1 <sup>m</sup> 9 <sup>s</sup>	-11'.7	
2	0	8 <sup>M</sup> .5	8.7	8.6	+2 10	-29.9		20	71	10.2	10	11.3	-1 14	+ 5.8	
3	3	8.6	8.6	8.7	+0 26	+38.1		21	73	10.2		11.4	-0 51	+ 0.7	
4	5	8.6	8.9	8.8	-0 12	-34.6		22	73	10.2		11.4	-0 49	-12.6	
5	9	8.7	8.7	9.0	-1 6	+ 6.5		23	84	10.5		11.8	+0 24	- 1.2	
6	9	8.7	8.9	9.0	-0 5	-21.9		24	88	10.6		12.0	-0 44	- 0.7	
7	14	8.8	9.0	9.1	-1 31	+ 8.8		25	90	10.6		12.1	+0 14	+ 6.3	
8	28	9.2	9.5	9.6	-1 1	- 6.8		26	93	10.7		12.3	-0 26	+15.3	
9	30	9.2	9.5	9.7	+2 4	+15.5		27	100	10.8		12.6	-0 20	-11.4	
10	35	9.3	9.3	9.9	+1 39	+19.8		28	100	10.8		12.6	-0 25	+ 6.3	
11	38	9.4	9.5	10.0	+0 38	- 4.8		29	104	10.9		12.8	-0 32	+15.2	
12	41	9.5	9.8	10.1	+1 39	-17.8		30	105	10.9		12.9	+0 46	-12.4	
13	54	9.8	9.8	10.6	+1 33	-17.6		31	107	11.0		13.0	-0 9	- 5.6	
14	55	9.8	9.6	10.6	-1 18	+21.8		32	107	11.0		13.0	+0 17	-11.7	
15	55	9.8	10	10.6	-1 56	-29.3		33	112	11.1		13.2	-0 1	- 6.0	
16	58	9.9	9.7	10.7	-1 3	-19.6		34	114	11.1		13.4	+0 13	- 2.8	
17	62	10.0	9.8	10.9	-1 39	- 3.1									
18	65	10.0	9.8	11.0	+0 33	+ 3.9									

$$M = 9.3 + 0.023 (G - 33.6).$$

5511

## RS Librae

 $15^h 15^m 52^s$  (1855.0)  $-22^\circ 23'.5$ Max. = 2 410 102<sup>d</sup> (14 Julii 1886) + 219<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .4	8 <sup>M</sup> .5	7 <sup>M</sup> .7	+ 2 <sup>m</sup> 26 <sup>s</sup>	+23'.9		26	48	10 <sup>M</sup> .1		11 <sup>M</sup> .0	-0 <sup>m</sup> 11 <sup>s</sup>	+24'.2	CoD. 9 <sup>M</sup> .8
2	2	8.5	8.5	7.9	+ 0 33	-27.0	CoD. 8 <sup>M</sup> .0	27	49	10.1		11.0	-1 58	+11.3	" 10
3	5	8.6	8.5	8.0	- 1 36	+ 0.8	" 8.0	28	51	10.2		11.1	-0 26	- 6.7	" 10
4	7	8.7	8.8	8.3	- 0 8	+11.3	" 8.5	29	52	10.2		11.2	-0 4	-27.2	" 9.8
5	9	8.7	8.5	8.5	- 1 56	- 3.7	" 8.3	30	53	10.2	9 <sup>M</sup> .8	11.2	+1 48	- 7.4	" 9.8
6	13	8.9	8.8	8.8	- 0 25	+33.5		31	55	10.3		11.3	+1 5	-14.1	" 9.9
7	14	8.9	9.0	8.9	+ 1 4	-24.6	" 8.7	32	56	10.3		11.4	+1 54	-10.8	" 9.9
8	16	9.0	9.0	9.0	+ 0 36	+ 0.3	" 8.6	33	59	10.4		11.5	+0 1	-23.9	" 10
9	19	9.1	9.1	9.3	- 1 52	+20.8	" 9.1	34	59	10.4		11.5	+1 11	-12.8	" 10
10	22	9.2	9.3	9.5	- 1 46	-30.7	" 9.1	35	61	10.5		11.6	+1 8	-18.7	" 9.8
11	24	9.2	9.4	9.6	- 0 59	+31.1		36	64	10.6		11.8	+0 43	+ 2.9	
12	26	9.3	9.2	9.8	- 1 20	-31.0	" 9.4	37	67	10.7		12.0	+1 22	- 2.9	" 10
13	28	9.4	9.3	9.9	- 1 35	-11.4	" 9.2	38	69	10.8		12.1	+1 0	+ 4.5	
14	33	9.6	9.5	10.2	- 1 41	- 0.7	" 9.5	39	70	10.8		12.2	-0 29	- 8.9	
15	33	9.6	9.4	10.2	+ 1 15	+ 8.4	" 9.6	40	70	10.8		12.2	+0 44	- 3.1	" 10
16	34	9.6	9.5	10.3	+ 2 0	-29.1	" 9.3	41	73	10.9		12.4	-0 50	- 3.0	
17	37	9.7	9.8	10.5	- 1 30	+ 6.0	" 9.5	42	74	10.9		12.5	+1 31	+ 2.2	" 10 dpl.
18	38	9.7	9.8	10.5	+ 0 43	+12.8	" 9.6	43	76	11.0		12.6	-0 43	+ 6.0	
19	39	9.8		10.6	+ 1 24	+12.9	" 9.7	44	77	11.1		12.7	-0 33	-12.8	
20	40	9.8		10.6	- 0 21	- 9.0	" 10	45	79	11.1		12.9	-0 11	-13.8	
21	40	9.8		10.6	+ 0 46	+ 9.7	" 9.7	46	81	11.2		13.1	-0 33	+ 6.3	
22	42	9.9		10.7	- 1 47	+ 5.7	" 9.9	47	81	11.2		13.1	+1 4	-10.2	" 10 dpl.
23	45	10.0		10.9	+ 1 5	+ 6.0	" 10	48	82	11.2		13.2	-0 11	+ 1.2	
24	45	10.0		10.9	+ 1 20	+18.4	" 10								
25	47	10.0		10.9	- 1 0	+ 7.2	" 10								

$$M = 9.3 + 0.034 (G - 25.5).$$

5566

## RU Librae

 $15^{\text{h}} 25^{\text{m}} 10^{\text{s}}$  (1855.0)  $-14^{\circ} 50'.0$ Max. = 2 413 357<sup>d</sup> (12 Iunii 1895) + 316<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			<sup>M</sup> 4.0	<sup>M</sup> 4.0	+2 <sup>m</sup> 15 <sup>s</sup>	+32'.1	$\gamma$ Librae	23	96	10 <sup>M</sup> .5		<sup>M</sup> 11.5	+0 <sup>m</sup> 21 <sup>s</sup>	+12'.0	
2	0	8 <sup>M</sup> .1	7.9	7.6	-2 12	-30.6		24	96	10.5		11.5	-0 15	-11.5	
3	8	8.3	8.2	8.1	-3 3	-21.6		25	103	10.7		11.8	-0 38	+ 8.0	
4	13	8.4	8.7	8.4	-0 12	- 4.2		26	104	10.7		11.8	+0 17	-11.4	
5	15	8.5	8.3	8.5	+0 50	+27.5		27	108	10.8		11.9	+1 2	- 3.4	
6	20	8.6	8.6	8.7	-0 38	-17.4		28	115	11.0		12.1	+0 43	- 9.3	
7	23	8.7	8.6	8.8	+0 27	+24.2		29	120	11.1		12.2	-0 8	+ 5.9	
8	31	8.9	9.4	9.2	-0 59	+19.3		30	125	11.2		12.4	+0 21	-11.3	
9	33	8.9	9.1	9.3	-1 59	-26.4		31	128	11.3		12.5	+0 14	+ 7.9	
10	42	9.1	9.3	9.6	+0 36	-20.5		32	131	11.4		12.6	+0 37	+14.7	
11	45	9.2	9.2	9.8	+1 2	- 8.8		33	135	11.5		12.7	-0 36	+ 0.2	
12	52	9.4	9.4	10.0	-1 56	+ 5.3		34	139	11.6		12.7	+0 21	+ 5.6	
13	56	9.5	9.5	10.2	+0 42	+12.7		35	140	11.6		12.8	+1 2	- 8.4	
14	62	9.6	9.5	10.4	-1 22	+14.4		36	142	11.6		12.8	+0 51	- 3.3	
15	63	9.7	9.6	10.4	-1 13	+ 9.3		37	143	11.7		12.8	-0 42	+ 6.7	
16	64	9.7		10.5	-0 55	- 2.1		38	148	11.8		12.9	+0 27	+11.4	
17	70	9.8		10.6	-1 2	+12.7		39	150	11.8		13.0	+0 55	- 0.6	
18	71	9.9		10.7	-0 2	-11.8		40	162	12.1		13.3	-0 9	+14.9	
19	75	10.0		10.8	+0 28	-10.9		41	165	12.2		13.3	-0 40	- 9.6	
20	85	10.2	9.8	11.1	+1 28	- 7.9		42	169	12.3		13.4	+0 50	+11.1	
21	88	10.3		11.2	+1 7	-13.8		43	181	12.6		13.6	-0 30	+ 5.7	
22	91	10.4	10	11.4	+1 41	-10.0									

$$M = 9.2 + 0.025 (G - 44.2).$$

5688

## R Librae

 $15^{\text{h}} 45^{\text{m}} 24^{\text{s}}$  (1855.0)  $-15^{\circ} 48'.1$ Max. = 2 399 791<sup>d</sup> (21 Aprilis 1858) + 242<sup>d</sup>.5 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			4 <sup>M</sup> .8	4 <sup>M</sup> .3	+0 <sup>m</sup> 12 <sup>s</sup>	-29'.9	θ Librae	16	107	10 <sup>M</sup> .7		11 <sup>M</sup> .7	+0 <sup>m</sup> 36 <sup>s</sup>	+14'.7	
2	0	8 <sup>M</sup> .6	9.1	8.5	+1 24	- 7.6		17	113	10.8		11.9	-0 38	+ 5.5	
3	19	9.0	9.0	9.3	-1 49	+19.7		18	116	10.8		12.0	-0 9	+ 3.1	
4	33	9.3	9.3	9.7	-0 17	+30.2		19	119	10.9		12.1	-0 59	- 3.1	
5	37	9.3	9.4	9.9	-0 29	-19.7		20	122	10.9		12.2	+0 36	+11.9	
6	39	9.4	9.3	9.9	-0 59	-12.4		21	124	11.0		12.2	+0 54	+14.4	
7	48	9.5	9.8	10.2	+0 46	+20.2		22	127	11.0		12.3	-0 4	- 2.2	
8	50	9.6	9.4	10.3	+1 25	- 5.3		23	129	11.1		12.4	-1 5	0.0	
9	55	9.7	9.4	10.4	-0 47	-26.7		24	129	11.1		12.4	-0 52	+ 5.3	
10	57	9.7	9.6	10.4	-1 28	+18.5		25	134	11.2		12.6	-0 15	- 3.7	
11	59	9.7	9.5	10.5	-0 52	+14.1		26	136	11.2		12.7	+0 6	- 5.9	
12	70	10.0		10.8	-0 20	-13.8		27	137	11.2		12.7	-0 6	+ 2.6	
13	74	10.0		10.9	+0 55	-14.4		28	142	11.3		12.9	-0 42	- 6.3	
14	91	10.4		11.3	-0 58	- 7.9		29	148	11.4		13.1	-0 13	- 3.7	
15	100	10.5		11.6	-0 30	- 9.8		30	154	11.6		13.4	-0 5	+ 3.2	

$$M = 9.4 + 0.019 (G - 40.8).$$

5775

## U Serpentis

 $16^h 0^m 23^s$  (1855.0)  $+ 10^0 19'.4$ Max. = 2 410 176<sup>d</sup> (26 Septemb. 1886)  $+ 240^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .2	5 <sup>M</sup> .6	+0 <sup>m</sup> 20 <sup>s</sup>	- 2'.5	PD. 5 <sup>M</sup> .96 GW, 45 Serp.	21	100	10 <sup>M</sup> .6		11 <sup>M</sup> .3	+0 <sup>m</sup> 22 <sup>s</sup>	+ 7'.8	
2	0	7 <sup>M</sup> .4	7.3	6.8	+0 49	+ 8.9	„ 7.08 W, 46 „	22	102	10.6		11.4	-0 26	+11.3	
3	4	7.5	7.5	7.0	-1 25	+ 0.6	„ 7.27 W, *	23	105	10.7		11.6	+0 41	-10.2	
4	18	8.0	8.0	7.6	-2 29	-17.2		24	110	10.9		11.8	-0 36	+ 1.8	
5	30	8.3	8.5	8.1	+2 27	+30.5		25	113	11.0		11.9	+0 20	- 6.1	
6	50	9.0	9.4	9.0	-1 37	+ 1.1		26	113	11.0		11.9	+0 14	- 3.6	
7	51	9.0	9.3	9.1	+1 46	-17.9		27	119	11.2		12.2	+0 47	- 1.8	
8	55	9.1	9.1	9.2	+0 15	+23.0		28	121	11.3		12.3	-0 25	+ 9.6	
9	58	9.2	9.1	9.4	+1 8	+ 1.8		29	125	11.4		12.5	-0 13	+11.1	
10	59	9.3	9.2	9.4	+2 21	+18.0		30	129	11.5		12.7	+0 8	+11.2	
11	63	9.4	9.3	9.6	-0 8	-24.5		31	134	11.7		13.0	+0 6	+ 5.7	
12	67	9.5		9.8	-1 4	+ 7.8		32	138	11.8		13.2	+0 32	- 0.6	
13	72	9.7		10.0	+0 11	+17.1		33	138	11.8		13.2	+0 37	+ 8.0	
14	74	9.7		10.1	+1 9	-23.5		34	140	11.9		13.3	+0 37	+15.6	
15	75	9.8		10.1	-1 5	+15.3		35	140	11.9		13.3	+0 28	+14.1	
16	78	9.9		10.3	+0 41	-18.6		36	140	11.9		13.3	+0 25	- 9.3	
17	79	9.9	9.4	10.4	+1 17	+ 3.9		37	142	11.9		13.4	+0 26	-12.3	
18	90	10.3		10.9	+0 2	-12.2		38	147	12.1		13.6	+0 45	- 0.2	
19	99	10.5	9.5	11.3	+0 9	-23.0		39	152	12.2		13.9	-0 53	- 0.1	
20	99	10.5		11.3	+0 34	+ 2.1									

\* A. G. C. Leipzig I 5598: magnitudo 8<sup>M</sup>.0, 8<sup>M</sup>.2.

$$M = 8.7 + 0.032 (G - 41.3).$$

5796a

## RU Herculis

 $16^{\text{h}} 4^{\text{m}} 10^{\text{s}}$  (1855.0)  $+25^{\circ} 27'.1$ Max. =  $2\,414\,355^{\text{d}}$  (6 Martii 1898)  $+482^{\text{d}}$  E.

Num.	Grad.	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Grad.	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$7^{\text{M}}.1$	$7^{\text{M}}.5$	$-0^{\text{m}} 7^{\text{s}}$	$+24'.8$	PD. $7^{\text{M}}.72$ GW—	21	52	$10^{\text{M}}.4$		$11^{\text{M}}.5$	$-1^{\text{m}} 5^{\text{s}}$	$+9'.1$	B. n. 12
2	0	$8^{\text{M}}.3$	8.3	8.3	-2 48	- 9.3	P. 8.9 u*	22	53	10.4		$11.6$	-0 17	- 3.2	„ 13
3	4	8.5	8.5	8.6	+1 9	- 6.3	„ 8.7 a, B. n. 29**	23	54	10.5		$11.6$	-1 6	+ 8.0	„ 11
4	10	8.7	8.4	8.9	-1 22	- 8.3	„ 8.9 t, „ 10	24	54	10.5		$11.6$	+1 8	+10.1	„ 28
5	12	8.8	8.8	9.0	+1 13	+20.9	„ 9.4 s, „ 30	25	55	10.5		$11.7$	+0 24	+ 6.9	P. 11 <sup>M</sup> .5 e, „ 21
6	15	8.9	9.0	9.2	+1 38	+ 9.7	„ 9.7 b, „ 31	26	58	10.6		$11.9$	+0 9	-12.7	„ 18
7	18	9.0	9.2	9.4	+1 11	-26.0		27	61	10.8		$12.1$	+0 27	-13.4	„ 22
8	23	9.2	9.3	9.8	-0 19	-39.5		28	64	10.9		$12.2$	+0 46	-15.1	dpl. „ 25
9	27	9.4	9.5	10.0	-0 42	+26.6	„ 10.3 z	29	66	11.0		$12.3$	+0 14	+ 3.6	„ 12.2 h, „ 19
10	29	9.5	9.5	10.1	-1 52	-15.1	„ 2	30	66	11.0		$12.3$	-0 4	+ 6.3	„ 11.8 f, „ 15
11	30	9.5	9.4	10.2	+0 57	-21.8		31	73	11.2		$12.7$	+0 43	+ 0.7	„ 24
12	33	9.6	9.5	10.4	+0 17	+23.0	„ 10.7 x	32	75	11.3		$12.8$	+0 7	- 0.6	„ 12.1 g
13	36	9.8	9.5	10.6	+1 31	-26.9		33	80	11.5		$13.1$	-0 51	+ 4.2	
14	38	9.8		10.7	+0 35	+12.9	„ 11.2 d, „ 23	34	83	11.6		$13.2$	+0 4	- 3.6	„ 12.5 m
15	41	10.0	9.5	10.9	-0 7	-20.9	„ 10.9 w	35	90	11.9		$13.6$	+0 2	- 3.1	„ 12.9 n
16	41	10.0		10.9	+0 20	+11.4	„ 11.1 c, „ 20						-0 13	- 5.3	„ 13.6 p
17	45	10.1	9.5	11.1	+1 18	-27.6							-0 15	0.0	„ 14.8 w'
18	47	10.2		11.2	+0 2	- 7.9	„ 11.4 q, „ 17						-0 7	- 0.2	„ 15.4 t'
19	50	10.3		11.4	-0 6	- 9.0	„ 14								
20	50	10.3		11.4	+0 56	+ 8.6	„ 26								

\* Parkhurst, Researches in Stell. Photom. 1906, p. 74, Tab. 45 (magnitudines et litterae).

\*\* Bellamy, Monthly Notices, vol. LXII pp. 74—75, Tab. I (numeri).

$$M = 8.9 + 0.040 (G - 14.3).$$

5856

## W Ophiuchi

 $16^{\text{h}} 13^{\text{m}} 36^{\text{s}}$  (1855.0) —  $7^{\circ} 21'.0$ Max. = 2 408 276<sup>d</sup> (14 Iulii 1881) + 329<sup>d</sup> 8 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	
1	0	(8 <sup>M</sup> .1)	7 <sup>M</sup> .3	7 <sup>M</sup> .7	+1 <sup>m</sup> 36 <sup>s</sup>	+29'.3	dpl.	23	109	10 <sup>M</sup> .5		12 <sup>M</sup> .2	+0 <sup>m</sup> 8 <sup>s</sup>	-15'.8		
2	30	8.7	8.9	9.2	+1 34	- 2.1		24	109	10.5		12.2	+0 37	+ 5.9		
3	36	8.9	8.9	9.6	+0 34	+33.6		25	116	10.6		12.3	-0 10	-12.6		
4	43	9.0	8.9	9.9	+1 27	+19.9		26	119	10.7		12.4	-0 54	+ 3.2		
5	51	9.2	9.2	10.3	+0 48	+ 4.0		27	120	10.7		12.4	+0 5	- 1.2		
6	55	9.3	9.2	10.4	-0 46	-23.5		28	125	10.8		12.5	+0 13	- 3.0		
7	59	9.4	9.4	10.6	+0 44	-14.4		29	131	11.0		12.7	+0 59	+ 0.1		
8	63	9.5	9.5	10.8	-1 38	+25.7		30	135	11.1		12.7	+0 48	+ 0.6		
9	70	9.6	9.6	11.0	-1 20	+ 2.3		31	140	11.2		12.8	+0 38	- 2.2		
10	73	9.7		11.1	-0 51	-23.8		32	144	11.2		12.9	+0 11	+ 6.0		
11	75	9.7	10	11.2	-0 37	-21.8		33	147	11.3		13.0	-0 1	+13.5		
12	76	9.8	9.5	11.2	+0 8	-23.5		34	148	11.3		13.0	-0 4	+12.6		
13	76	9.8	9.6	11.2	+0 28	+27.6		35	148	11.3		13.0	-0 4	+12.3		
14	78	9.8	10	11.3	-0 52	-13.0		36	150	11.4		13.0	+0 51	- 4.8		
15	79	9.8	10	11.4	-0 23	-21.7		37	153	11.4		13.1	+0 35	- 0.9		
16	80	9.8	9.9	11.4	+0 40	-17.5		38	154	11.5		13.1	+0 8	+ 8.8		
17	83	9.9	10	11.5	+0 45	+23.1		39	161	11.6		13.2	-0 23	+ 5.2		
18	86	10.0	10	11.6	0 0	+26.6		40	165	11.7		13.3	-0 13	- 2.5		
19	88	10.0	10	11.7	+0 40	-23.2		41	171	11.8		13.4	+0 49	- 3.0		
20	94	10.1		11.8	-0 29	+22.0		42	179	12.0		13.5	+0 47	- 3.0		
21	98	10.2		11.9	-0 9	+ 2.2										
22	105	10.4		12.1	+0 15	- 4.2										

$$M = 9.4 + 0.022 (G - 60.0).$$

5903

## Y Scorp̃ii

 $16^{\text{h}} 20^{\text{m}} 59^{\text{s}}$  (1855.0) —  $19^{\circ} 1'.4^*$ Max. =  $2\,407\,847^{\text{d}}$  (11 Maii 1880) +  $349^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$8^{\text{M}}.0$		$+0^{\text{m}}17^{\text{s}}$	$+40'.3$		11	43	$10^{\text{M}}.6$		$13^{\text{M}}.1$	$-0^{\text{m}}23^{\text{s}}$	$+7'.3$	
2			8.8		-2 45	$+13.4$		12	43	10.6		13.1	-0 46	$+8.8$	
3	0	$9^{\text{M}}.3$	9.3	$11^{\text{M}}.0$	-0 48	$+2.8$		13	46	10.7		13.3	+1 5	$+4.3$	
4	3	9.4	9.7	11.2	-1 35	$-5.1$		14	49	10.8		13.4	-0 21	$+4.5$	
5	9	9.6	9.8	11.5	-1 39	$+10.5$		15	51	10.8		13.5	-0 4	$+3.0$	
6	16	9.8		11.8	+0 7	$-2.3$									
7	20	9.9	9.5	12.0	-0 1	$+25.5$									
8	21	9.9		12.1	+0 5	$+14.4$									
9	37	10.4		12.8	-0 41	$+3.6$									
10	39	10.5		12.9	+1 29	$-4.1$									

\* Locus erroneus in Chandler II et III.

$$M = 9.3 + 0.03 G?$$

5928a

## SS Herculis

 $16^{\text{h}} 25^{\text{m}} 52^{\text{s}}$  (1855.0) +  $7^{\circ} 10'.2$ Max. =  $2416951^{\text{d}}$  (15 April. 1905) +  $103^{\text{d}}9$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .1	8 <sup>M</sup> .0	7 <sup>M</sup> .7	+0 <sup>m</sup> 4 <sup>s</sup>	-15'.1		18	62	10 <sup>M</sup> .1	9 <sup>M</sup> .5	10 <sup>M</sup> .8	-1 <sup>m</sup> 50 <sup>s</sup>	+ 3'.0	
2	4	8.3	8.0	7.9	-1 39	+ 2.2		19	64	10.2	9.5	10.9	-1 36	+ 0.9	
3	9	8.4	9.4	8.1	+2 6	- 0.9		20	64	10.2		10.9	+0 37	- 2.3	
4	12	8.5	8.7	8.2	+0 7	-19.1		21	68	10.3		11.2	-0 45	- 6.3	
5	18	8.7	9.0	8.6	+0 33	+14.2		22	71	10.4		11.3	-0 5	+ 3.3	
6	29	9.1	9.0	9.1	+1 6	+11.4		23	72	10.4		11.4	+0 4	+12.6	
7	35	9.2	9.5	9.4	-2 0	-28.7		24	74	10.5		11.5	+0 15	+ 2.7	
8	38	9.3	9.3	9.6	-2 6	+ 1.8		25	76	10.6		11.6	+0 41	- 6.7	
9	42	9.5	9.5	9.8	-2 14	-23.1		26	78	10.6		11.7	-0 43	-11.9	
10	44	9.5	9.5	9.9	-0 12	+26.3		27	80	10.7		11.8	+0 50	+ 6.3	
11	47	9.6	9.5	10.1	+0 15	-17.4		28	80	10.7		11.8	-0 52	+11.4	
12	49	9.7	9.4	10.2	+0 22	-29.0		29	82	10.8		11.9	-0 18	-12.7	
13	52	9.8	9.5	10.3	+0 39	-26.6		30	85	10.8		12.1	-0 37	+ 6.8	
14	52	9.8	9.5	10.3	+0 56	+10.8		31	90	11.0		12.4	+0 29	+ 4.2	
15	54	9.9	9.4	10.4	+0 25	+15.9	BD. $\Delta\delta = +14'.3$	32	93	11.1		12.5	+0 38	0.0	
16	55	9.9		10.5	-0 49	+14.4		33	96	11.2		12.7	-0 11	-12.7	
17	55	9.9	9.3	10.5	-1 26	+23.8		34	104	11.5		13.2	-0 10	- 0.8	

$$M = 9.0 + 0.032 (G - 27.3).$$

6207

## Z Ophiuchi

 $17^h 12^m 12^s$  (1855.0) +  $1^\circ 40'.2$ Max. = 2 412 587<sup>d</sup> (3 Maii 1893) + 352<sup>d</sup> 0 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .1	6 <sup>M</sup> .8	6 <sup>M</sup> .9	-1 <sup>m</sup> 55 <sup>s</sup>	+14'.1	PD. 7 <sup>M</sup> .05 GW*	23	123	11 <sup>M</sup> .0		11 <sup>M</sup> .9	+0 <sup>m</sup> 9 <sup>s</sup>	- 4'.8	
2	5	7.3	7.2	7.1	+1 36	- 5.3	" 7.20 GW*	24	125	11.1		12.0	+1 3	- 6.6	
3	26	7.9	7.8	8.1	+1 42	+ 2.4		25	127	11.2		12.1	+0 57	- 6.2	
4	38	8.3	8.5	8.7	-0 50	-31.0		26	131	11.3		12.2	-0 14	+ 4.9	
5	53	8.8	9.0	9.3	-2 42	+ 9.3		27	136	11.5		12.4	+0 46	- 3.3	
6	57	8.9	9.0	9.5	-2 21	+27.5		28	138	11.5		12.5	+0 7	+ 5.2	
7	63	9.1	9.3	9.8	-0 57	+28.1		29	142	11.6		12.6	-0 11	+ 5.1	
8	69	9.3	9.3	10.0	-1 24	-16.7		30	148	11.8		12.8	-0 4	+12.2	
9	74	9.5	9.3	10.2	+0 24	+ 9.3		31	150	11.9		12.8	+0 40	+11.3	
10	80	9.7	9.5	10.4	-0 18	+17.4		32	152	12.0		12.9	-0 42	- 6.0	
11	85	9.8		10.6	-0 8	+26.7	**	33	156	12.1		13.0	+0 4	- 2.1	
12	89	9.9	9.5	10.8	-1 2	-26.3		34	157	12.1		13.1	-0 23	- 0.9	
13	90	10.0		10.8	-0 11	+26.2	**	35	161	12.3		13.2	-0 7	+ 8.9	
14	94	10.1		10.9	-1 11	+12.8		36	165	12.4		13.3	-0 5	-11.8	
15	95	10.2	9.5	11.0	-1 10	+13.6		37	167	12.4		13.4	+0 20	+ 8.5	
16	96	10.2		11.0	-0 14	+20.2		38	169	12.5		13.5	+0 36	-12.8	
17	98	10.2	9.5	11.1	+0 36	+ 2.8		39	173	12.6		13.6	+0 49	-14.9	
18	100	10.3		11.1	+0 7	-11.7		40	180	12.9		13.8	+0 51	- 9.4	
19	105	10.5	9.5	11.3	+0 35	+11.1		41	183	13.0		13.9	-0 29	- 2.1	
20	110	10.6		11.5	+1 1	+12.6									
21	117	10.8		11.7	-0 13	+ 1.0									
22	118	10.9		11.8	-0 1	+ 8.8									

\* 2 &gt; \* 1 die 21 Iulii 1901.

\*\* (11 + 13) = BD. + 2° 32' 94", 9<sup>M</sup>.5.

$$M = 9.3 + 0.032 (G - 68.7).$$

6225

## RS Herculis

 $17^{\text{h}} 15^{\text{m}} 38^{\text{s}} \quad (1855.0) \quad +23^{\circ} 3'.9$ 
 $\text{Max.} = 2\,413\,769^{\text{d}} (28 \text{ Iulii } 1896) + 220^{\text{d}} \text{ E.}$ 

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .8	5 <sup>M</sup> .7	+2 <sup>m</sup> 25 <sup>s</sup>	+ 2'.0	73 Herculis PD. 5 <sup>M</sup> .95 W+	18	53	10 <sup>M</sup> .2	10 <sup>M</sup> .7	+0 <sup>m</sup> 55 <sup>s</sup>	- 0'.3		
2	0	8 <sup>M</sup> .0	7.7	7.5	+0 9	+45.9		19	57	10.4	10.9	+0 35	- 5.5		
3	11	8.5	8.3	8.2	+0 23	+14.4		20	59	10.5	11.0	-0 8	+12.0		
4	19	8.8	9.3	8.7	+1 1	-33.8		21	65	10.8	11.3	-0 41	-11.9		
5	22	8.9	9.1	8.9	-0 43	- 6.2		22	72	11.0	11.7	-0 16	+ 4.4		
6	26	9.1	9.1	9.1	+0 55	- 2.8		23	82	11.5	12.2	-0 14	- 3.0		
7	27	9.2	9.2	9.2	+1 20	+13.6		24	86	11.6	12.4	+0 28	-13.8		
8	29	9.2	9.1	9.3	-1 48	- 4.9		25	90	11.8	12.6	-0 47	- 2.2		
9	30	9.3		9.4	+1 10	-20.1		26	90	11.8	12.6	-1 4	+12.7		
10	32	9.4	9.3	9.5	+0 44	- 8.8		27	92	11.9	12.7	+1 7	+ 7.8		
11	36	9.5	9.5	9.7	-2 15	-13.2		28	94	12.0	12.8	-0 10	-12.9		
12	39	9.7	9.5	9.9	-1 49	-10.0		29	96	12.1	12.9	-0 43	+ 8.1		
13	39	9.7	9.5	9.9	+1 28	+12.0		30	97	12.1	13.0	+0 58	+ 5.1		
14	43	9.8	9.5	10.1	+1 30	+14.8		31	98	12.1	13.0	+0 36	-10.2		
15	45	9.9	9.5	10.2	-1 33	+ 0.8		32	100	12.2	13.1	-0 8	- 0.3		
16	45	9.9		10.2	+1 10	-14.5		33	104	12.4	13.3	-0 15	- 0.5		
17	48	10.0	9.5	10.4	-0 48	+15.1		34	105	12.4	13.3	+0 35	+ 1.8		

$$M = 9.1 + 0.042 (G - 25.7)$$

6624

## T Serpentis\*

18<sup>h</sup> 21<sup>m</sup> 45<sup>s</sup> (1855.0) + 6° 12'.5Max. = 2 400 912<sup>d</sup> (16 Maii 1861) + 341<sup>d</sup>.5 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .5	5 <sup>M</sup> .6	-0 <sup>m</sup> 50 <sup>s</sup>	- 5'.9	PD. 6 <sup>M</sup> .04 W	36	45	9 <sup>M</sup> .4	9 <sup>M</sup> .3	9 <sup>M</sup> .8	-1 <sup>m</sup> 17 <sup>s</sup>	+15'.1	V. 9 <sup>M</sup> .4 n. 20
2	0	8 <sup>M</sup> .1	8.1	7.5	-0 47	-32.1		37	46	9.4	9.5	9.8	-1 46	- 0.9	
3	4	8.2	8.5	7.7	-0 25	+32.2	V. 8.2 n. 47 **	38	46	9.4	9.5	9.8	-0 5	- 8.1	
4	8	8.3	8.4	7.0	-1 55	+ 8.0	„ 8.4 n. 1	39	46	9.4	9.5	9.8	-1 3	+26.0	„ 9.2 n. 44
5	14	8.5	8.6	8.2	-1 42	-13.4		40	47	9.5	9.2	9.9	-1 35	+11.3	„ 9.3 n. 10
6	17	8.6	8.6	8.3	-1 43	+14.9	„ 8.6 n. 13	41	49	9.5	9.5	10.0	-1 22	+ 6.6	„ 9.6 n. 6
7	18	8.6	8.0	8.4	+1 1	+27.4		42	50	9.5	9.5	10.0	-0 42	+24.5	„ 9.7 n. 49
8	20	8.7	8.7	8.5	-0 54	+18.2	„ 8.6 n. 37	43	50	9.5	9.4	10.0	-0 34	+12.9	„ 9.8 n. 39
9	20	8.7	8.5	8.5	-1 34	+14.0	„ 8.5 n. 12	44	51	9.6	9.5	10.1	-1 54	+ 3.3	„ 9.7 n. 29
10	22	8.7	8.6	8.6	-1 54	+11.8	„ 8.6 n. 9	45	51	9.6	9.5	10.1	-0 13	+16.6	„ 10.0 n. 42
11	23	8.8	8.7	8.6	-1 9	+14.4	„ 8.9 n. 19	46	51	9.6	9.4	10.1	-1 44	- 5.9	
12	25	8.8	9.0	8.7	-0 25	+ 6.9	„ 9.1 n. 58	47	53	9.6	9.4	10.2	-0 33	+16.6	„ 9.8 n. 38
13	25	8.8	8.6	8.7	-1 12	+15.3	„ 8.8 n. 21	48	55	9.7	9.5	10.3	+0 33	- 9.6	
14	26	8.8	8.7	8.8	-0 9	+29.6	„ 9.0 n. 46	49	58	9.8	9.4	10.4	+0 35	+20.5	
15	29	8.9	9.0	8.9	-1 55	+ 5.9	„ 8.8 n. 5	50	58	9.8		10.4	-0 26	+ 3.1	„ 10.4 n. 64
16	29	8.9	9.0	8.9	-0 25	+24.5	„ 9.0 n. 50	51	59	9.8		10.5	-0 48	+ 2.7	„ 10.3 n. 65
17	31	9.0	9.0	9.0	-0 30	+28.1	„ 9.0 n. 45	52	62	9.9	9.5	10.6	+0 35	+18.2	
18	31	9.0	8.9	9.0	-0 41	-17.1		53	63	9.9	9.5	10.7	-0 10	-15.7	
19	32	9.0	9.1	9.1	-1 25	- 9.0		54	63	9.9	9.5	10.7	-1 35	-23.0	
20	32	9.0	9.2	9.1	-1 46	+ 7.0	„ 9.0 n. 3	55	63	9.9	9.5	10.7	+2 0	-13.2	
21	33	9.0	9.2	9.1	-1 1	+ 9.6	„ 9.0 n. 22	56	64	9.9		10.8	-0 28	+17.1	„ 10.2 n. 40
22	34	9.1	9.4	9.2	-1 44	-20.1		57	65	10.0	9.5	10.8	-0 53	- 2.6	
23	35	9.1	9.1	9.2	+1 8	+26.3		58	68	10.1	9.5	11.0	+1 10	+28.1	
24	36	9.1	9.3	9.3	-1 21	-21.5		59	68	10.1		11.0	+0 16	+ 9.1	
25	36	9.1	9.3	9.3	+0 25	+29.3		60	69	10.1		11.0	+1 10	+ 3.6	
26	37	9.2	9.1	9.4	+1 40	- 4.1		61	70	10.1		11.1	-0 48	+ 0.3	
27	37	9.2	9.3	9.4	-1 46	-23.4		62	71	10.1		11.2	+0 54	- 6.3	
28	37	9.2		9.4	-1 45	+ 8.4	„ 9.1 n. 4	63	72	10.2		11.2	+0 41	+ 3.5	
29	38	9.2	9.2	9.4	-1 23	- 3.2		64	72	10.2		11.2	-0 57	- 9.0	
30	40	9.2	9.2	9.5	-1 48	+ 7.6	„ 9.2 n. 2	65	72	10.2		11.2	+0 45	+ 3.5	
31	40	9.2	9.0	9.5	-1 19	+17.9	„ 9.0 n. 36	66	72	10.2		11.2	+0 39	+11.6	
32	40	9.2	9.3	9.5	+0 19	+ 0.7		67	73	10.2		11.3	-0 34	+ 6.1	„ 10.9 n. 63
33	41	9.3	9.0	9.6	-1 8	-10.8		68	74	10.2		11.3	-0 50	+ 8.7	„ 10.9 n. 62
34	43	9.3	9.2	9.7	-1 10	+21.6	„ 9.2 n. 43	69	74	10.2		11.3	-0 40	-10.8	
35	45	9.4	9.3	9.8	-1 28	+12.1	„ 9.3 n. 24	70	75	10.3		11.4	+0 27	-12.9	

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
71	76	10 <sup>M</sup> .3	9 <sup>M</sup> .5	11 <sup>M</sup> .4	+0 <sup>m</sup> 23 <sup>s</sup>	+14'.4	dpl.	86	90	10 <sup>M</sup> .7		12 <sup>M</sup> .2	+0 <sup>m</sup> 3 <sup>s</sup>	- 0'.3	Ch. III. 11 <sup>M</sup> .5
72	76	10.3		11.4	+0 19	- 0.2		87	91	10.7		12.3	-0 21	- 0.9	
73	78	10.4		11.5	-0 24	- 4.2		88	93	10.8		12.4	-0 1	- 9.9	
74	78	10.4		11.5	+0 20	- 5.3		89	93	10.8		12.4	-0 2	+ 9.3	
75	80	10.4		11.6	+0 31	+12.7		90	93	10.8		12.4	+0 53	+ 3.5	
76	81	10.4		11.7	-0 20	+ 0.7		91	97	10.9		12.6	+0 39	+ 3.5	
77	82	10.5		11.8	-0 13	- 6.2		92	98	10.9		12.7	-0 4	+ 6.3	
78	82	10.5		11.8	+0 26	+ 0.2		93	98	10.9		12.7	-0 4	- 3.6	
79	84	10.5		11.9	+0 21	- 6.3		94	98	10.9		12.7	+0 9	-11.4	
80	84	10.5		11.9	+0 48	- 2.1		95	99	11.0		12.8	+0 6	+ 2.7	
81	85	10.6		12.0	+0 34	- 0.6		96	102	11.0		13.0	+0 6	- 2.4	
82	85	10.6		12.0	-0 1	+12.9		97	108	11.2		13.3	-0 4	+ 2.4	
83	88	10.6		12.1	-0 37	- 8.7									
84	89	10.7		12.2	+0 15	+ 2.6									
85	89	10.7		12.2	+1 3	+ 5.1									

\* In cumulo NGC. 6633.

\*\* Valentiner, Astron. Beobachtungen, Mannheim III Abth. 1879. Magnitudines photographicas M. Wolf vide in AN. 3019 anni 1890.

$$M = 8.7 + 0.029 (G - 21.1).$$

6685

## Y Lyrae

 $18^{\text{h}} 32^{\text{m}} 52^{\text{s}}$  (1855.0)  $+ 43^{\circ} 49'.9$ Typus Antalgol. Periodus: 0<sup>d</sup>502 693 7.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .5	7 <sup>M</sup> .3	+3 <sup>m</sup> 51 <sup>s</sup>	+18'.2	PD. 7 <sup>M</sup> .47 GW-	26	45	9 <sup>M</sup> .9	9 <sup>M</sup> .5	10 <sup>M</sup> .8	+1 <sup>m</sup> 38 <sup>s</sup>	+ 4'.5	
2			7.6		-0 48	- 9.4		27	46	9.9	9.5	10.9	+1 46	- 1.5	
3	0	8 <sup>M</sup> .1	8.1	8.4	-0 10	- 3.0		28	48	10.0	9.5	11.0	+1 13	-13.6	
4	1	8.1	8.3	8.5	-0 26	+27.7		29	49	10.1	9.5	11.0	+0 17	+17.2	
5	5	8.3	8.3	8.8	-0 32	+23.9		30	51	10.1		11.1	-0 41	+14.3	
6	10	8.5	8.5	9.1	+2 53	-23.4		31	52	10.2	9.5	11.1	-1 5	+16.4	
7	12	8.6	8.4	9.2	-1 7	+31.0		32	53	10.2	9.5	11.2	+2 15	+29.0	
8	16	8.7	9.1	9.5	-1 7	+ 2.7		33	53	10.2		11.2	+1 22	+11.5	
9	20	8.9	9.0	9.6	-2 44	-19.8		34	56	10.3		11.3	-0 49	+ 5.6	
10	21	8.9	9.2	9.7	-1 46	+25.3		35	56	10.3		11.3	-1 7	+ 3.2	
11	25	9.1	9.1	10.0	+0 50	-20.0		36	56	10.3		11.3	+1 28	-19.5	
12	29	9.3	9.4	10.2	-0 13	+25.0		37	57	10.4		11.4	-0 42	- 3.9	
13	29	9.3	9.3	10.2	+2 44	+23.2		38	60	10.5		11.5	+0 59	+ 8.5	
14	31	9.3	9.3	10.3	-2 31	-16.3		39	61	10.5		11.5	-0 6	+ 1.8	
15	32	9.4	9.3	10.3	-0 42	+ 2.1		40	63	10.6		11.6	-0 51	- 4.6	
16	32	9.4	9.5	10.3	-2 1	+ 4.4		41	63	10.6		11.6	-0 8	- 0.6	W 10 <sup>M</sup> .7 c*
17	33	9.4	9.2	10.3	-2 41	-12.8		42	67	10.8		11.8	-0 3	- 9.7	
18	35	9.5	9.5	10.4	-2 38	+ 9.5		43	71	10.9		12.1	-0 2	- 4.2	„ 11.1 h
19	35	9.5	9.4	10.4	-1 28	+28.5		44	74	11.1		12.3	+0 7	- 3.5	
20	38	9.6	9.3	10.5	+0 49	+29.4		45	77	11.2		12.5	+0 4	- 2.8	„ 11.8 m
21	40	9.7	9.4	10.6	+0 50	- 0.8		46	(77)	11.2		12.5	+0 12	- 4.8	„ 11.6 k var.?
22	40	9.7	9.5	10.6	-0 14	- 2.2		47	79	11.3		12.6	+0 9	+ 0.6	„ 12.1 l
23	42	9.8	9.4	10.7	+1 31	-19.7		48	79	11.3		12.6	-0 16	- 0.3	
24	43	9.8	9.5	10.8	-2 30	-14.8		49	82	11.4		12.9	+0 6	- 2.4	„ 12.0 n
25	(43)	9.8	9.5	10.8	+0 29	-15.9									

\* Stanley Williams in Monthly Notices vol. LXII p. 202.

$$M = 9.2 + 0.040 (G - 27.5).$$

## SY Cygni

19<sup>h</sup> 41<sup>m</sup> 0<sup>s</sup> (1855.0) +32° 21'.1Typus Algol. Periodus: 6<sup>d</sup>0059.

Num.	Grad.	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Grad.	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .0	5 <sup>M</sup> .9	-3 <sup>m</sup> 50 <sup>s</sup>	-16'.2	PD. 6 <sup>M</sup> .24 GW	39	56	9 <sup>M</sup> .6	9 <sup>M</sup> .5	10 <sup>M</sup> .2	-1 <sup>m</sup> 18 <sup>s</sup>	+26'.4	
2			6.5	6.2	+0 1	+11.1	" 6.34 G, $\Sigma^2$ 192	40	57	9.7	9.5	10.2	+1 36	+ 1.6	
3	0	8 <sup>M</sup> .2	8.2	7.9	+2 29	+ 5.7		41	58	9.7	9.5	10.2	-1 19	+ 3.1	
4	5	8.3	8.4	8.1	-0 53	+ 0.6		42	58	9.7		10.2	+1 40	+13.2	***
5	10	8.5	8.3	8.3	+1 5	- 9.0		43	59	9.7	9.5	10.3	+0 31	+27.2	
6	11	8.5	9.0	8.4	0 0	+10.5		44	59	9.7	9.5	10.3	-1 15	- 9.6	
7	15	8.6	8.6	8.6	-1 3	+24.2		45	60	9.7		10.3	-0 36	- 5.3	
8	19	8.7	9.0	8.7	+2 4	+15.0		46	61	9.8	9.4	10.4	-1 13	+ 1.2	
9	20	8.7	8.8	8.8	+0 12	+ 0.6		47	61	9.8		10.4	+0 10	- 3.3	*
10	23	8.8	9.0	8.9	-0 2	+ 6.9		48	61	9.8		10.4	-0 10	+ 5.4	
11	24	8.8	9.0	8.9	+2 30	- 5.7		49	61	9.8	9.5	10.4	+2 56	+ 3.3	
12	26	8.9	9.1	9.0	-2 8	+ 6.9		50	63	9.8	9.2	10.5	+2 35	+ 0.5	
13	29	9.0	9.1	9.1	+2 16	- 2.4		51	64	9.8		10.5	+1 38	-11.1	
14	30	9.0	9.3	9.2	-2 21	+24.6		52	64	9.8	9.5	10.5	-2 22	+28.8	
15	33	9.1	9.1	9.3	+2 59	+14.9		53	64	9.8	9.5	10.5	+1 7	+ 8.1	
16	33	9.1	9.3	9.3	-1 21	+20.7		54	64	9.8		10.5	-0 2	+ 1.8	G. 10.8 b
17	34	9.1	9.3	9.3	-0 48	+19.2		55	66	9.9		10.6	+1 40	+ 3.9	
18	36	9.1	9.3	9.4	+1 51	- 6.3		56	66	9.9	9.5	10.6	+2 20	-27.5	
19	37	9.2	9.1	9.4	+1 0	-12.0		57	66	9.9		10.6	+1 41	+13.5	***
20	38	9.2	9.1	9.5	+2 15	0.0		58	67	9.9	9.5	10.6	+0 46	-23.0	
21	42	9.3	9.3	9.6	-0 19	-21.3		59	69	10.0	9.5	10.7	-0 24	- 2.4	G. 11.1 t
22	43	9.3	9.0	9.6	-2 59	-23.3		60	71	10.0	9.5	10.8	+1 48	-16.9	
23	44	9.3	9.4	9.7	-1 21	-27.8		61	72	10.0	9.5	10.8	+2 24	-21.8	
24	47	9.4	9.4	9.8	-2 47	+22.1		62	74	10.1	9.5	10.9	-2 3	- 6.2	
25	47	9.4	9.3	9.8	-2 11	+12.6		63	77	10.2		11.1	+0 19	- 3.9	
26	48	9.4	9.4	9.8	-0 58	-21.9		64	81	10.3		11.3	+0 5	- 1.2	„ 11.4 c
27	50	9.5	9.5	9.9	-1 10	-23.9		65	83	10.3		11.4	+0 5	- 4.8	
28	51	9.5		10.0	+0 39	-11.9		66	85	10.4		11.5	+0 19	- 0.6	„ 11.2 d
29	51	9.5	9.3	10.0	+0 14	+13.2					var.		+4 0	+12.1	5 <sup>M</sup> - 13 <sup>M</sup> ***
30	53	9.6	9.3	10.0	+2 0	+15.1							-0 22	- 1.6	G. 12.0 p
31	53	9.6	9.5	10.0	-2 55	-29.0							-0 36	+ 3.1	„ 12.1 g
32	54	9.6	9.3	10.1	+2 42	+12.3							-0 30	+ 0.6	„ 12.2 h
33	54	9.6	9.5	10.1	-0 55	-27.7							0 0	+ 3.6	„ 12.3 r
34	54	9.6	9.3	10.1	-0 34	-24.7							+0 15	+ 0.6	„ 12.6 k
35	55	9.6	9.3	10.1	+2 26	-18.6							-0 4	- 0.4	„ 12.9 m
36	55	9.6		10.1	+0 6	- 2.7	*						-0 12	- 1.1	„ 13.0 n
37	55	9.6		10.1	0 0	+ 0.7	G. 10.5 a**						-0 4	- 2.5	„ 13.1 s
38	56	9.6	9.3	10.2	+2 57	+26.0									

\* (36 + 47) = BD. + 32° 3559, 9<sup>M</sup>; HP. 9<sup>M</sup>78.

\*\* Graff, Hamburg. Mitt. 11 p. 37 (magnitudines et litterae).

\*\*\* (42 + 57) = BD. + 32° 3569, 9<sup>M</sup>2.

\*\*\*\* Vide Ch. 7120 Ser. III et Ch. XV Ser. V.

$$M = 8.8 + 0.025 (G - 23.0).$$

7220

## S Cygni

20<sup>h</sup> 2<sup>m</sup> 28<sup>s</sup> (1855.0) + 57° 34'.2Max. = 2412765<sup>d</sup> (28 Octobris 1893) + 323<sup>d</sup> E\*.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .2	7 <sup>M</sup> .2	7 <sup>M</sup> .5	+2 <sup>m</sup> 13 <sup>s</sup>	-11'.4	PD. 7 <sup>M</sup> .32 W	36	96	10 <sup>M</sup> .0		10 <sup>M</sup> .8	-1 <sup>m</sup> 7 <sup>s</sup>	+10'.3	
2	15	7.6	7.5	7.9	-0 52	-22.4	„ 8.04 GW+	37	97	10.0	9 <sup>M</sup> .5	10.8	-2 42	-12.1	
3	16	7.6	7.8	8.0	+4 14	-28.3		38	98	10.0		10.8	-0 54	+ 3.2	
4	17	7.7	7.7	8.0	-3 45	-19.6		39	100	10.1	9.5	10.9	+3 15	+11.5	
5	32	8.1	8.1	8.4	+3 34	+19.6		40	101	10.1		10.9	+0 10	-10.2	
6	41	8.4	8.9	8.7	-2 4	-10.4	P. 8.7 c **	41	103	10.2		11.0	+0 58	-14.9	
7	45	8.5	9.0	8.9	-1 53	-25.7		42	104	10.2		11.1	-1 5	+ 1.0	
8	48	8.6	8.6	9.0	-3 12	-28.5		43	107	10.3		11.2	-0 49	+13.1	
9	48	8.6	9.0	9.0	+0 16	- 4.3	„ 9.0 T	44	107	10.3		11.2	+1 22	- 8.0	
10	51	8.6	8.9	9.1	-4 2	+11.4		45	107	10.3		11.2	+0 57	-13.4	
11	52	8.7	8.9	9.1	+0 1	+ 0.7	„ 9.1 d	46	109	10.3		11.2	+1 6	+ 6.8	
12	56	8.8	8.9	9.2	-0 7	+24.3		47	111	10.4		11.3	+1 34	-11.6	
13	56	8.8	8.8	9.2	-3 47	+ 7.3		48	111	10.4		11.3	+0 14	- 1.7	P. 10 <sup>M</sup> .7 l
14	57	8.8	9.1	9.3	+3 40	-26.0		49	113	10.4		11.4	-0 45	- 4.7	
15	61	8.9	9.3	9.4	+1 49	+ 7.6		50	114	10.5		11.5	+0 5	+ 6.4	„ 10.9 m***
16	62	9.0	9.0	9.4	-1 10	+ 1.4	„ 9.5 e	51	114	10.5		11.5	-1 26	-13.5	
17	64	9.0	9.4	9.5	-1 50	+18.5		52	115	10.5		11.5	+0 42	-10.4	
18	66	9.1	9.3	9.6	-2 48	+13.1		53	118	10.6		11.6	+0 21	- 5.5	„ 10.3 k
19	68	9.1		9.7	-3 44	+11.5		54	118	10.6		11.6	-0 35	+10.3	
20	70	9.2	9.2	9.7	-0 6	+ 8.3		55	118	10.6		11.6	-1 48	+ 7.7	
21	70	9.2	9.2	9.7	+2 39	-25.3		56	119	10.6		11.7	+0 26	-15.2	
22	74	9.3	9.2	9.9	-0 6	+ 7.5		57	120	10.6		11.7	+1 36	0.0	
23	74	9.3	9.3	9.9	-3 34	-18.4		58	121	10.7		11.8	-1 22	+10.7	
24	76	9.4		10.0	-1 34	- 4.3		59	123	10.7		11.9	+0 15	- 3.0	
25	76	9.4	9.5	10.0	+0 51	- 5.4	„ 9.7 g	60	124	10.8		11.9	-0 22	- 8.9	
26	78	9.4	9.3	10.0	-0 23	- 2.6	„ 10.0 f	61	125	10.8		12.0	-1 53	- 5.9	
27	78	9.4	9.3	10.0	-2 1	+11.6		62	126	10.8		12.0	-1 14	+ 6.6	
28	78	9.4	9.5	10.0	+1 36	-20.2		63	128	10.9		12.1	-0 43	- 1.4	
29	79	9.5	9.5	10.1	+0 37	+ 6.3		64	129	10.9		12.1	+0 50	+ 6.1	
30	82	9.6	9.4	10.2	-2 13	+12.0		65	129	10.9		12.1	-0 13	- 8.6	
31	84	9.6	9.5	10.3	+2 3	-22.6		66	131	11.0		12.2	-0 21	-12.9	
32	84	9.6	9.4	10.3	-2 31	-28.0		67	134	11.1		12.3	+0 12	+ 2.8	„ 11.4 o
33	86	9.7	9.5	10.3	+1 5	+27.6		68	134	11.1		12.3	-0 20	+ 7.6	
34	88	9.7	9.5	10.4	+1 35	- 2.7		69	137	11.2		12.5	-1 14	- 6.8	dpl.
35	94	9.9		10.6	-1 28	+ 4.3		70	138	11.2		12.6	-1 26	- 8.6	

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
71	139	11 <sup>M</sup> .2		12 <sup>M</sup> .6	+0 <sup>m</sup> 12 <sup>s</sup>	+ 7'.3	P. 11.2 n						+0 <sup>m</sup> 13 <sup>s</sup>	+ 0'.7	P. 13.3 t
72	139	11.2		12.6	-1 33	-13.7	dpl.						+0 1	- 1.0	
73	142	11.3		12.7	+0 43	+ 4.3							-0 13	+ 1.2	„ 14.0 $\alpha$
74	144	11.4		12.8	-0 8	- 5.9							+0 3	- 1.9	„ 14.5 $\gamma$
75	144	11.4		12.8	-0 20	+ 8.5							+0 1	+ 1.0	„ 14.8 $\eta$
					+0 4	- 2.8	P. 11.6 p						-0 5	+ 1.3	„ 15.1 $\theta$
					-0 3	- 2.7	„ 12.1 x						-0 4	- 0.1	„ 15.7 $\delta$
					-0 34	+ 4.9									
					-0 9	+ 0.9	„ 12.4 y								
					-0 26	- 0.4									

\* +0.015 E<sup>2</sup> (Irregularitates magnae).

\*\* Parkhurst, Researches in Stell. Photom. 1906, p. 118, Tab. 72 (magnitudines et litterae).

\*\*\* P.  $\Delta\delta$  = +7'.7 erronea.

$$M = 8.1 + 0.029 (G - 31.8).$$

7223

## SW Cygni

 $20^{\text{h}} 2^{\text{m}} 25^{\text{s}}$  (1855.0)  $+45^{\circ} 52'.9^*$ Typus Algol. Periodus: 4.<sup>d</sup>572 820.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .9	8 <sup>M</sup> .0	7 <sup>M</sup> .4	-2 <sup>m</sup> 17 <sup>s</sup>	+32'.1		28	62	9 <sup>M</sup> .7	10 <sup>M</sup> .6	+0 <sup>m</sup> 32 <sup>s</sup>	-12'.4		
2	3	8.0	8.0	7.6	-2 15	+ 3.9		29	66	9.8	10.8	-1 15	+ 9.3		
3	8	8.1	8.0	7.9	+0 54	-18.1		30	66	9.8	10.8	+1 6	- 0.2		
4	8	8.1	8.1	7.9	-2 42	+ 2.8		31	68	9.9	10.9	-0 49	+10.8		
5	15	8.3	8.6	8.3	-1 30	+23.0		32	70	9.9	11.0	+0 20	+15.0		
6	17	8.4	8.1	8.4	+1 29	+ 3.9		33	74	10.1	11.3	-0 35	+12.5		
7	24	8.6	8.8	8.8	-0 44	- 1.0	G. 9 <sup>M</sup> .0 a**	34	75	10.1	11.4	+0 52	+ 6.6		
8	27	8.7	8.6	8.9	-0 20	-23.3		35	76	10.1	11.4	-0 20	+ 0.7	G. 11 <sup>M</sup> .6 k	
9	28	8.7	9.0	9.0	+1 50	+21.1		36	78	10.2	11.5	+1 10	+ 7.6		
10	30	8.8	8.5	9.1	+2 17	+22.1		37	79	10.2	11.6	-0 33	- 9.1		
11	33	8.9	9.0	9.2	-1 24	-12.0		38	81	10.3	11.7	+0 22	- 9.3		
12	41	9.1	9.1	9.6	+1 12	- 2.1	„ 9.4 e	39	88	10.5	12.2	-0 42	-11.2		
13	41	9.1	9.1	9.6	+1 16	+29.3		40	90	10.5	12.4	+0 5	+ 9.7		
14	44	9.2	8.8	9.7	-2 45	+27.0		41	90	10.5	12.4	+0 26	+ 8.4		
15	45	9.2	9.4	9.7	-0 54	- 0.2	„ 10.1 f	42	90	10.5	12.4	-1 5	- 6.9		
16	48	9.3	9.5	9.9	+2 38	+14.0		43	91	10.6	12.5	+0 31	- 2.8	„ 11.8 g	
17	48	9.3	9.4	9.9	+0 26	- 1.2	„ 9.8 d	44	92	10.6	12.5	-0 15	- 6.9		
18	49	9.3	9.5	9.9	+0 56	+ 7.8		45	94	10.6	12.6	+0 50	- 7.0		
19	52	9.4	9.5	10.1	+0 40	-15.7		46	95	10.7	12.7	+1 8	-12.3		
20	52	9.4	9.2	10.1	-0 10	+ 2.4	„ 10.0 b	47	98	10.8	13.0	+1 5	-12.3		
21	53	9.4		10.1	+2 45	-11.6		48	99	10.8	13.0	+1 9	- 6.3		
22	53	9.4	9.5	10.1	-0 42	+12.9		49	99	10.8	13.0	0 0	- 6.3		
23	56	9.5		10.3	-0 56	- 1.8	„ 10.7 h	50	102	10.9	13.2	+0 5	+10.1		
24	57	9.6	9.4	10.3	-0 18	+ 2.8	„ 10.4 c	51	104	10.9	13.4	+0 26	+ 8.7		
25	57	9.6	9.5	10.3	+1 46	-19.2									
26	59	9.6	9.5	10.4	+2 14	+ 9.7									
27	59	9.6	9.5	10.4	+0 10	+12.6									

\* In Charta pro 40<sup>o</sup> lege 46<sup>o</sup>.

\*\* Graff, Hamburg. Mitt. 11 p. 30 (magnitudines et litterae).

$$M = 9.1 + 0.029 (G - 41.0).$$

7260

## Z Aquilae

 $20^{\text{h}} 7^{\text{m}} 27^{\text{s}}$  (1855.0) —  $6^{\circ} 35'.4$ Max. =  $2\ 413\ 131^{\text{d}}$  (29 Octobris 1894) +  $127^{\text{d}}.2\ \text{E}$ .

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$6^{\text{M}}.8$	$6^{\text{M}}.9$	$-2^{\text{m}}32^{\text{s}}$	$-12'.3$		28	52	$9^{\text{M}}.9$	$9^{\text{M}}.8$	$10^{\text{M}}.8$	$+1^{\text{m}}13^{\text{s}}$	$-29'.9$	
2			7.0	7.0	+0 14	+36.5		29	54	9.9	9.8	10.9	+1 55	+23.9	
3			7.5	7.3	-0 46	+ 6.5	*	30	56	10.0	9.8	11.0	-0 7	+29.8	
4	0	$8^{\text{M}}.4$	8.5	8.2	+0 7	- 6.7		31	57	10.0	10	11.1	+1 22	+ 6.5	
5	1	8.4	8.5	8.3	-0 41	-31.1		32	61	10.1		11.3	-0 53	-15.6	
6	12	8.7	9.0	8.8	-0 45	+ 6.7	*	33	62	10.1		11.3	+1 1	-15.0	
7	13	8.8	9.0	8.9	-2 17	+18.9		34	64	10.2		11.4	-0 3	- 9.8	
8	17	8.9	8.7	9.1	+2 5	+35.8		35	65	10.2	9.8	11.5	+1 51	+19.8	
9	20	9.0	9.0	9.2	+1 45	-22.1		36	66	10.3		11.5	-0 21	- 5.4	
10	25	9.1	9.1	9.4	-0 56	+30.2		37	68	10.3		11.6	-0 3	- 3.6	
11	27	9.2	9.1	9.5	-1 56	+23.3		38	68	10.3		11.6	+0 39	-12.8	
12	30	9.3	9.2	9.7	+0 5	- 9.1		39	68	10.3		11.6	+1 4	+ 5.5	
13	33	9.3	9.5	9.9	-1 33	-21.1		40	69	10.3		11.7	-0 8	+ 1.2	
14	35	9.4	9.4	10.0	-0 10	+12.0		41	71	10.4		11.8	+0 11	+13.7	
15	38	9.5	9.5	10.0	-0 34	+15.0		42	73	10.5		11.9	-0 54	+ 9.1	
16	39	9.5	9.7	10.1	+0 10	+30.5		43	77	10.6		12.1	+0 19	+11.4	
17	39	9.5	9.7	10.1	+0 21	+35.5		44	81	10.7		12.3	-0 17	+14.2	dpl.
18	40	9.5	9.5	10.2	+1 49	+ 7.1		45	83	10.7		12.4	-0 54	-12.3	
19	40	9.5	9.8	10.2	-0 30	+19.1		46	83	10.7		12.4	+0 10	+ 3.9	
20	42	9.6	9.5	10.3	-1 36	-31.8		47	86	10.8		12.6	+0 13	+ 1.2	
21	44	9.6	9.8	10.4	+0 29	-21.8		48	87	10.8		12.6	+0 29	+ 2.7	
22	44	9.6	9.8	10.4	+1 24	+16.9		49	89	10.9		12.7	+0 19	+ 3.8	
23	45	9.7	9.5	10.5	-1 26	-31.8		50	91	11.0		12.8	-0 3	+ 3.3	
24	46	9.7	9.5	10.5	-0 23	- 2.6		51	91	11.0		12.8	-0 12	-12.0	
25	47	9.7	9.5	10.6	-0 41	+25.0		52	93	11.0		12.9	+0 8	+ 1.5	
26	48	9.8		10.6	-0 13	- 9.9		53	96	11.1		13.0	-0 7	0.0	
27	49	9.8	9.7	10.7	+2 6	+ 8.2		54	96	11.1		13.0	+0 3	+ 2.2	

\* (3 + 6) =  $H_2 25 = \Sigma 2646$ . Differentiae  $\Delta\delta$  in BD. inversae: +  $6'.8$  et +  $6'.6$ .

$$M = 9.2 + 0.028 (G - 28.2).$$

7360

## RU Capricorni

 $20^{\text{h}} 24^{\text{m}} 6^{\text{s}}$  (1855.0)  $-22^{\circ} 10'.7$ Max. =  $2\,415\,270^{\text{d}}$  (7 Septemb. 1900) +  $341^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .7	7 <sup>M</sup> .7	7 <sup>M</sup> .5	+0 <sup>m</sup> 56 <sup>s</sup>	-32'.6	CoD. 7 <sup>M</sup> .6	21	73	9 <sup>M</sup> .8	9 <sup>M</sup> .8	10 <sup>M</sup> .4	+1 <sup>m</sup> 28 <sup>s</sup>	+18'.9	
2	7	7.9	8.5	7.7	-0 22	-28.1	,, 8.3 } h <sup>29</sup> 73 ,, 8.5 }	22	76	9.9	10	10.5	+0 47	+10.2	
3	13	8.1	8.8	7.9	-0 20	-28.8		23	78	9.9	10	10.5	+0 26	+24.1	
4	38	8.8	8.8	8.7	+0 53	+15.3		24	78	9.9	9.9	10.5	+0 21	+11.4	
5	38	8.8	8.7	8.7	-2 57	+33.8		25	80	10.0	10	10.7	+1 35	+ 6.6	CoD. 10
6	42	8.9	9.0	8.9	-2 30	+26.6		26	81	10.0	9.8	10.8	0 0	+13.8	
7	43	8.9	9.2	8.9	+1 49	-30.2	,, 9.0	27	83	10.1		10.9	-1 11	-14.1	,, 9.8
8	46	9.0	9.1	9.0	-2 43	+29.8		28	84	10.1		11.0	0 0	+ 5.4	,, 9.7
9	49	9.1	9.1	9.2	+2 10	+14.8		29	87	10.2		11.2	+0 19	+ 1.2	,, 9.9
10	54	9.2	9.0	9.4	+1 2	+26.0		30	90	10.3		11.4	+0 10	- 2.4	,, 9.9
11	55	9.3	9.3	9.4	-1 41	-25.1	,, 9.3	31	96	10.5		11.8	+0 16	- 6.6	,, 10
12	57	9.3	9.2	9.5	-0 47	-20.8	,, 9.1	32	97	10.5		11.9	+0 27	- 8.8	,, 10
13	58	9.4	9.3	9.5	-1 36	-21.6	,, 9.1	33	102	10.6		12.3	+0 44	-15.0	,, 10
14	61	9.4	9.4	9.7	-1 38	+29.6		34	102	10.6		12.3	-0 22	- 2.4	
15	64	9.5	9.5	9.8	+0 26	-30.2	,, 9.7	35	104	10.7		12.4	-0 55	- 6.6	
16	66	9.6	9.7	10.0	-0 10	- 5.4	,, 9.5	36	105	10.7		12.5	-0 47	- 0.6	,, 10
17	67	9.6	9.7	10.0	+1 48	+26.8		37	107	10.8		12.7	-0 19	- 3.2	
18	70	9.7	9.7	10.2	+1 43	- 6.0	,, 9.5	38	110	10.9		12.9	0 0	-10.2	
19	71	9.7	9.5	10.2	+1 40	-21.5	,, 9.5	39	112	10.9		13.1	-0 28	+ 8.1	
20	72	9.8	9.6	10.3	+0 23	-28.1	,, 9.7	40	114	11.0		13.2	0 0	- 6.9	

$$M = 9.4 + 0.029 (G - 59.3)$$

7399

## W Delphini

 $20^{\text{h}} 31^{\text{m}} 4^{\text{s}}$  (1855.0) +  $17^{\circ} 46'.9$ Typus Algol. Periodus: 4<sup>d</sup>806 120 (irregularis).

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .0	6 <sup>M</sup> .3	+0 <sup>m</sup> 14 <sup>s</sup>	- 1'.0	PD. 6 <sup>M</sup> .02 G	38	89	10 <sup>M</sup> .7		11 <sup>M</sup> .7	-0 <sup>m</sup> 23 <sup>s</sup>	-11'.4	dpl.
2	0	8 <sup>M</sup> .5	8.5	8.4	+1 28	-25.5		39	91	10.8		11.8	-0 9	+11.7	
3	5	8.6	8.8	8.6	-1 21	-28.7		40	92	10.8		11.8	+0 34	- 2.1	
4	11	8.8	8.8	8.8	-0 58	- 0.3		41	93	10.8		11.8	-0 45	+13.8	
5	18	9.0		9.1	-1 51	+28.1	*	42	94	10.9		11.9	+0 33	-13.2	
6	19	9.0	9.3	9.2	-0 4	+18.0		43	95	10.9		11.9	-0 28	- 6.1	
7	23	9.1	9.3	9.3	-1 3	+ 9.9		44	97	10.9		12.0	-0 55	+11.7	
8	25	9.1	9.3	9.4	+0 18	- 0.9	G. 9.7 a**	45	98	11.0		12.0	-0 58	- 9.3	
9	29	9.2	9.1	9.6	+0 13	-11.3	***	46	99	11.0		12.0	-0 42	- 9.1	
10	33	9.3	9.3	9.7	+0 10	+15.0		47	102	11.1		12.1	-0 27	+11.4	
11	37	9.4	9.4	9.9	+0 10	-30.5		48	103	11.1		12.2	-0 35	-12.4	G. 11 <sup>M</sup> .6 f
12	38	9.5	9.5	10.0	-0 11	+23.2		49	105	11.1		12.2	+0 56	- 0.6	
13	38	9.5		10.0	-1 51	+28.5	*	50	105	11.1		12.2	-0 38	+15.3	
14	38	9.5		10.0	+0 56	- 2.1		51	107	11.2		12.3	-0 20	- 8.4	
15	39	9.5		10.0	+0 29	- 5.1		52	108	11.2		12.3	+0 47	+ 5.1	
16	39	9.5	9.5	10.0	-0 2	+23.5		53	110	11.3		12.4	-0 8	-11.7	
17	41	9.5	9.3	10.1	+1 20	-23.6		54	110	11.3		12.4	-0 41	+10.2	
18	41	9.5		10.1	-0 4	+ 9.0	G. 9.6 b	55	113	11.3		12.5	+0 25	+ 3.9	
19	44	9.6	9.5	10.2	+0 43	+17.3		56	114	11.4		12.5	+0 44	+ 3.6	
20	50	9 8		10.4	-1 8	+ 9.0		57	115	11.4		12.5	-0 2	- 6.8	
21	53	9.8	9.5	10.5	-1 53	-28.7		58	115	11.4		12.5	-0 21	+ 3.6	,, 12.3 g, dpl.
22	53	9.8		10.5	+0 7	+24.5		59	116	11.4		12.5	+0 27	+14.2	
23	56	9.9	9.5	10.6	-1 33	+26.4		60	117	11.4		12.6	-0 54	-13.8	
24	56	9.9		10.6	+0 50	- 0.9		61	117	11.4		12.6	+0 28	+ 5.7	
25	60	10.0		10.7	+1 3	- 1.8		62	118	11.5		12.6	-0 44	- 3.6	
26	63	10.1		10.8	+0 35	+19.8		63	119	11.5		12.6	-0 57	+ 9.6	
27	66	10.2		10.9	+0 16	+15.0		64	121	11.5		12.7	+0 34	+ 2.7	
28	69	10.2		11.0	+0 44	+ 2.3		65	124	11.6		12.8	-0 35	- 9.3	
29	72	10.3		11.1	+0 36	- 3.1		66	125	11.6		12.8	-0 47	+14.7	
30	76	10.4		11.3	+0 9	- 5.3	„ 11.0 h	67	125	11.6		12.8	-0 46	+ 1.5	
31	78	10.5		11.4	+0 42	+ 5.7		68	127	11.7		12.9	-0 5	- 6.0	,, 12.3 k
32	81	10.5		11.5	+0 20	+ 1.2	„ 10.9 e	69	135	11.9		13.1	-0 32	- 5.4	
33	83	10.6		11.5	+1 0	+ 2.9		70	137	11.9		13.2	-0 19	+ 1.8	
34	87	10.7		11.6	-0 4	+ 2.7	„ 10.8 c	71	149	12.2		13.5	-0 39	- 9.1	
35	88	10.7		11.7	+0 14	0.0	„ 11.2 d						-0 5	+ 5.2	
36	88	10.7		11.7	-0 46	+ 5.5									
37	89	10.7		11.7	-0 52	+12.6									

\* (5+13) = BD. + 18° 4540, 8<sup>M</sup>.7.

\*\* Graff, Hamburg. Mitt. 11, p. 21 (magnitudines et litterae).

\*\*\* BD. + 17° 4368,  $\Delta\alpha = +5^{\circ}$ .

$$M = 9.0 + 0.025 (G - 19.1).$$

7435

## Y Aquarii

 $20^{\text{h}} 36^{\text{m}} 46^{\text{s}}$  (1855.0) —  $5^{\circ} 21'.4$ Max. = 2 415 224<sup>a</sup> (23 Iulii 1900) + 382<sup>a</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .8		-1 <sup>m</sup> 56 <sup>s</sup>	-27'.7		26	91	10 <sup>M</sup> .8		11 <sup>M</sup> .8	-0 <sup>m</sup> 47 <sup>s</sup>	- 3'.9	
2	0	8 <sup>M</sup> .6	9.0	8 <sup>M</sup> .6	-1 7	-20.0		27	95	10.9		11.9	-0 39	- 7.5	
3	4	8.7	8.9	8.8	-0 9	+ 3.0		28	99	11.0		12.0	-0 48	+ 0.6	
4	5	8.7	8.7	8.9	+1 13	+11.2		29	102	11.1		12.0	-0 25	- 0.3	
5	6	8.7	8.7	8.9	-0 56	+23.1		30	104	11.2		12.1	+0 14	-10.8	
6	8	8.8	8.8	9.0	-0 39	+ 6.6		31	109	11.3		12.2	+0 12	- 3.1	
7	11	8.8	8.8	9.1	+1 9	+23.7		32	109	11.3		12.2	-0 14	+ 0.3	
8	17	9.0	9.0	9.4	+0 8	+27.8		33	113	11.4		12.3	+0 46	- 5.6	
9	25	9.2	9.3	9.8	-1 20	- 9.0		34	115	11.4		12.3	-1 20	+25.7	
10	28	9.3	9.3	9.9	+0 14	+21.5		35	117	11.5		12.4	-0 48	+11.7	
11	31	9.3	9.4	10.1	+0 28	-12.0		36	117	11.5		12.4	+0 41	-12.3	
12	36	9.5	9.5	10.3	+1 0	+22.7		37	121	11.6		12.5	+0 16	-12.9	
13	37	9.5	9.5	10.3	-1 51	+ 8.7		38	123	11.6		12.5	+0 56	-14.4	
14	40	9.6	9.7	10.4	-0 13	+14.9		39	128	11.8		12.7	+0 31	- 0.9	
15	47	9.7	9.6	10.7	+1 41	+18.3		40	130	11.8		12.7	-0 2	- 4.1	
16	47	9.7	9.5	10.7	+0 28	+11.5		41	133	11.9		12.8	-0 23	-12.0	
17	50	9.8	9.7	10.8	-1 8	-12.0		42	133	11.9		12.8	+0 37	+ 9.6	
18	52	9.9	9.7	10.8	+0 15	-21.6		43	135	11.9		12.9	-0 8	- 6.3	
19	61	10.1	9.6	11.1	+1 6	+22.3		44	139	12.0		13.0	-0 37	+ 0.7	
20	65	10.2		11.2	+1 39	-12.0		45	141	12.1		13.1	+0 12	+13.5	
21	70	10.3		11.3	+0 48	-23.0		46	143	12.1		13.2	+0 44	+13.8	
22	75	10.4	10	11.5	+1 47	- 9.3		47	143	12.1		13.2	+0 38	+14.1	
23	76	10.5	10	11.5	-1 14	+ 5.9		48	147	12.2		13.3	-0 29	+10.2	
24	84	10.7	9.9	11.7	-1 19	+24.0		49	150	12.3		13.5	-0 12	+ 0.3	
25	88	10.8		11.7	+0 48	+12.3									

$$M = 9.3 + 0.025 (G - 29.7).$$

7448

## W Aquarii

 $20^{\text{h}} 38^{\text{m}} 48^{\text{s}}$  (1855.0) —  $4^{\circ} 36'.6$ Max. =  $2\ 412\ 825^{\text{d}}$  (27 Decemb. 1893) +  $382^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$7^{\text{M}}.0$	$7^{\text{M}}.2$	$-2^{\text{m}}12^{\text{s}}$	$+10'.5$		24	141	$10^{\text{M}}.0$		$11^{\text{M}}.9$	$+0^{\text{m}}41^{\text{s}}$	$+14'.4$	
2	0	$7^{\text{M}}.6$	7.5	7.4	+1 50	-33.2		25	142	10.0		12.0	+0 17	-10.2	
3	27	8.0	8.5	8.2	+0 17	- 9.5		26	143	10.0		12.0	+0 15	-15.0	
4	30	8.1	8.3	8.3	+0 21	+ 1.6		27	147	10.1		12.1	+0 7	+ 6.6	
5	54	8.5	8.8	9.0	-0 52	-21.0		28	148	10.1		12.2	+0 6	-10.2	
6	61	8.6	9.0	9.3	-1 53	-17.1		29	152	10.2		12.3	-1 16	+13.2	
7	91	9.1	9.1	10.2	-0 3	-10.2		30	158	10.3		12.5	-1 1	+14.0	
8	92	9.1	9.3	10.2	+0 30	+ 1.0		31	163	10.3		12.7	-0 53	-11.9	
9	97	9.2	9.3	10.4	-1 48	-23.3		32	163	10.3		12.7	+1 3	- 3.6	
10	103	9.3	9.1	10.6	+0 12	- 7.2		33	169	10.4		12.9	-1 8	+14.1	
11	107	9.4	9.4	10.8	+0 13	+21.5		34	170	10.5		13.0	+0 59	- 5.4	
12	111	9.5	9.5	10.9	-1 2	-21.8		35	171	10.5		13.0	-0 57	-15.0	
13	(114)	(9.5)	9.6	(11.0)	-0 21	-26.2	*	36	171	10.5		13.0	+0 16	+ 1.6	
14	117	9.6	9.5	11.1	-0 57	- 3.8		37	173	10.5		13.1	+0 41	- 8.4	
15	121	9.6	9.5	11.2	-0 39	+11.9		38	174	10.5		13.1	-0 12	- 8.9	
16	123	9.7	9.5	11.3	-0 3	+19.9		39	178	10.6		13.2	0 0	+ 5.9	
17	127	9.7	9.7	11.4	+0 59	+25.9		40	179	10.6		13.3	-0 24	-15.0	
18	129	9.8	9.8	11.5	-0 21	- 0.1		41	181	10.7		13.4	+0 11	+ 1.6	
19	130	9.8	9.7	11.5	+0 52	-23.0		42	182	10.7		13.4	-0 12	-12.9	
20	131	9.8	9.5	11.6	+1 0	+ 5.9		43	185	10.7		13.5	-0 6	-13.2	
21	131	9.8		11.6	-1 8	+17.8		44	188	10.8		13.6	-0 36	- 9.0	
22	131	9.8	9.6	11.6	-0 57	-22.7	**	45	190	10.8		13.7	-0 31	+ 6.2	
23	134	9.9	9.8	11.7	+1 34	- 3.6									

\* Gradus variabiles intra 105 et 130.

\*\* BD. —  $4^{\circ} 5247$ ,  $\Delta\alpha = -54^{\text{s}}$ .

$$M = 9.2 + 0.017 (G - 95.7).$$

7458

## V Delphini

 $20^h 41^m 11^s$  (1855.0) +  $18^\circ 48'.3$ Max. =  $2411\,739^d$  (6 Ianuarii 1891) +  $532^d.5$  E.\*

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8 <sup>M</sup> .2	8 <sup>M</sup> .2	8 <sup>M</sup> .5	-3 <sup>m</sup> 15 <sup>s</sup>	+11'.3	P. 8 <sup>M</sup> .0 $\epsilon$ **	33	74	10 <sup>M</sup> .6		11 <sup>M</sup> .7	-0 <sup>m</sup> 24 <sup>s</sup>	- 0'.2	P. 11 <sup>M</sup> .2 d
2	4	8.3	8.3	8.7	-1 8	-33.5		34	75	10.6		11.8	+0 39	+ 2.6	
3	11	8.5	8.5	8.9	+0 58	+31.3		35	77	10.7		11.9	+0 48	+ 9.2	
4	17	8.7	8.8	9.1	-1 8	- 5.4	„ 9.2 $\delta$								
5	20	8.8	8.9	9.3	-0 40	- 2.4	„ 9.4 x	36	78	10.7		12.0	+0 40	- 3.6	
6	22	8.9	9.0	9.3	-1 33	+ 8.7		37	78	10.7		12.0	+0 16	- 0.8	„ 11.4 e
7	24	8.9	9.0	9.4	+1 18	+28.9		38	78	10.7		12.0	+0 4	+ 6.2	
8	25	9.0	9.0	9.4	-0 40	- 5.1	„ 9.9 m'	39	82	10.9		12.2	-0 20	+ 1.9	„ 11.4 c
9	28	9.1	9.3	9.5	+0 44	-26.1		40	82	10.9		12.2	-0 47	- 3.2	
10	28	9.1	9.4	9.5	-0 40	+28.9		41	84	10.9		12.3	+0 7	+ 7.0	
								42	85	11.0		12.4	+0 59	-11.7	
11	30	9.1	8.9	9.6	-1 1	-20.9		43	86	11.0		12.5	+0 20	- 9.7	
12	32	9.2	9.2	9.7	-0 44	- 8.6	„ 10.0 n'	44	88	11.1		12.6	+0 49	-10.2	
13	36	9.3	9.5	9.9	+1 16	- 2.1		45	88	11.1		12.6	-0 9	+14.1	
14	39	9.4	9.5	10.0	+1 18	-30.0	***								
15	41	9.5	9.5	10.1	-0 21	-26.8		46	88	11.1		12.6	+0 14	+ 0.5	„ 11.8 h
								47	90	11.1		12.7	-0 22	- 4.5	„ 11.8 l
16	43	9.6	9.1	10.2	-0 53	+ 7.9	„ 10.0 n	48	93	11.2		12.9	-0 53	- 4.2	
17	47	9.7	9.3	10.3	-1 46	+21.2		49	98	11.3		13.2	+0 15	0.0	„ 12.1 b
18	48	9.7		10.4	+0 54	+20.9		50	98	11.3		13.2	-0 9	+ 0.6	„ 12.3 a
19	48	9.7		10.4	+1 9	- 2.5									
20	49	9.8		10.5	+0 58	+27.2							+0 7	+ 0.7	„ 13.6 y
													+0 7	- 2.7	„ 13.7 x
21	51	9.8		10.6	-0 27	+11.6	„ 10.4 k						-0 4	- 1.8	„ 13.9 $\omega$
22	53	9.9		10.7	+0 57	- 9.2							0 0	- 2.5	„ 14.3 $\sigma$
23	54	9.9		10.7	-0 14	+14.7	„ 10.3 m						-0 5	- 1.5	„ 14.4 $\omega'$
24	59	10.0		10.9	+0 41	-12.3									
25	60	10.1		11.0	+0 58	+11.3							+0 1	- 2.6	„ 14.6 $\sigma'$
													-0.3	- 1.2	„ 14.9 $\varrho$
26	63	10.2		11.1	+0 20	-13.4							-0 2	- 0.7	„ 15.3 $\varphi$
27	63	10.2		11.1	+0 41	-26.8							+0 3	+ 0.7	„ 15.4 $\pi$
28	66	10.3		11.3	+0 42	+ 1.7							0 0	- 0.2	„ 15.5 $\mu$
29	68	10.4		11.4	-0 8	- 4.4	„ 11.1 g								
30	70	10.5		11.5	-0 39	-10.2							-0 1	- 0.1	„ 16.4 A
31	72	10.5		11.6	-0 11	+ 2.7	„ 11.2 f								
32	72	10.5		11.6	-1 0	- 4.8									

\* Periodo decrescente?

\*\* Parkhurst, Researches in Stell. Photom. 1906 p. 147 Tab. 91.

\*\*\* BD. +  $18^\circ 46'23$   $\Delta\delta = -27'.5$  erronea.BD. +  $19^\circ 45'13$ , 9<sup>M</sup>.4 (-28<sup>s</sup>, +13'.7) } nunquam visae (1899, 1900, 1902).BD. +  $19^\circ 45'18$ , 9<sup>M</sup>.5 (+25<sup>s</sup>, +24'.5) }

$$M = 8.9 + 0.033 (G - 22.7).$$

7492

## RZ Cygni

 $20^{\text{h}} 47^{\text{m}} 2^{\text{s}}$  (1855.0) +  $46^{\circ} 48'.7$ Max. =  $2\,417\,049^{\text{d}}$  (22 Iulii 1905) +  $273^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .0	5 <sup>M</sup> .8	+3 <sup>m</sup> 55 <sup>s</sup>	+ 3'.2	PD. 5 <sup>M</sup> .84 WG-	31	44	9 <sup>M</sup> .6	9 <sup>M</sup> .5	10 <sup>M</sup> .0	-0 <sup>m</sup> 9 <sup>s</sup>	0'.0	
2			7.8		+3 58	-15.9		32	45	9.6	9.4	10.1	-0 48	-10.6	
3			7.5	7.5	-0 21	+21.1	„ 7.48 GW	33	46	9.7	9.5	10.1	+2 7	+ 4.5	
4	0	8 <sup>M</sup> .7	8.4	8.3	+2 49	- 5.2		34	47	9.7		10.2	+1 56	-16.9	**
5	4	8.8	8.8	8.5	+2 44	+23.0		35	47	9.7	9.5	10.2	+0 39	+14.4	
6	7	8.9	9.0	8.6	+1 52	-14.9		36	48	9.7	9.5	10.2	-1 21	+13.9	
7	8	8.9	9.2	8.6	-2 1	-21.0		37	48	9.7		10.2	+1 22	+18.5	***
8	9	8.9	8.8	8.7	-0 24	+25.0		38	48	9.7		10.2	+1 38	-10.5	
9	12	9.0	9.4	8.8	+1 36	-21.6		39	49	9.7	9.5	10.3	-1 5	+22.3	
10	14	9.0	9.0	8.8	-0 49	+ 9.2		40	50	9.7	9.5	10.3	+1 43	- 9.1	
11	17	9.1	9.3	8.9	+1 37	+24.8		41	50	9.7	9.4	10.3	+2 33	+11.8	
12	18	9.1	9.0	9.0	+0 7	+14.3		42	50	9.7	9.5	10.3	+0 30	-18.6	
13	19	9.1	9.3	9.0	+0 27	-26.6		43	52	9.8		10.4	+0 54	- 5.4	
14	20	9.1	9.2	9.1	-1 57	-17.9		44	53	9.8	9.5	10.4	-1 39	+11.4	
15	21	9.2	9.1	9.1	+2 36	+ 6.6		45	55	9.8		10.5	+0 35	- 2.7	
16	24	9.2	9.2	9.2	-2 37	-18.0		46	56	9.9	9.5	10.6	+2 33	+ 2.1	
17	28	9.3	9.2	9.4	+0 34	- 9.6		47	56	9.9		10.6	+1 32	- 5.9	*
18	28	9.3	9.5	9.4	-1 52	+21.3		48	57	9.9	9.4	10.6	+2 21	+ 7.8	
19	30	9.3	9.4	9.5	-1 32	-24.1		49	57	9.9	9.5	10.6	-2 4	+11.1	
20	31	9.4	9.1	9.5	+2 13	-18.7		50	57	9.9		10.6	+0 19	- 3.8	H. e ****
21	32	9.4	9.3	9.6	-0 8	-24.5		51	58	9.9	9.5	10.7	+2 24	+17.3	
22	35	9.4		9.7	-0 9	-25.7		52	58	9.9		10.7	+0 19	+ 7.8	
23	35	9.4		9.7	-0 13	+12.8		53	61	10.0		10.8	+0 32	- 5.7	„ d
24	37	9.5	9.5	9.8	-0 22	+10.7		54	63	10.0		10.9	-0 29	-11.9	
25	37	9.5	9.4	9.8	+2 45	+ 9.9		55	63	10.0		10.9	-0 36	+ 8.4	
26	38	9.5	9.4	9.8	-1 34	+ 6.3		56	64	10.0		11.0	+0 30	- 9.0	
27	38	9.5		9.8	+1 31	- 6.2	*	57	64	10.0		11.0	+1 9	+ 0.9	
28	43	9.6		10.0	+1 52	-16.3	**	58	66	10.1		11.1	-0 58	+ 9.8	
29	43	9.6	9.5	10.0	+2 16	+ 1.1		59	66	10.1		11.1	-1 3	+ 9.3	dpl.
30	44	9.6		10.0	+1 31	+18.6	***	60	66	10.1		11.1	+0 22	+ 1.6	

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
61	67	10 <sup>M</sup> .1		11 <sup>M</sup> .1	-0 <sup>m</sup> 17 <sup>s</sup>	+14'.1		71	75	10 <sup>M</sup> .2		11 <sup>M</sup> .6	0 <sup>m</sup> 0 <sup>s</sup>	- 2'.0	
62	68	10.1		11.2	-0 57	-12.0		72	77	10.3		11.7	0 0	- 2.4	
63	68	10.1		11.2	+0 29	+ 7.1		73	77	10.3		11.7	+1 14	- 8.4	
64	68	10.1		11.2	+0 52	- 0.3		74	77	10.3		11.7	+0 30	- 8.4	
65	68	10.1		11.2	-0 9	- 2.0	H. c	75	77	10.3		11.7	-0 11	+ 3.2	H. b
66	69	10.1		11.3	-0 16	- 3.4		76	82	10.4		12.0	+0 32	- 0.6	dpl.
67	71	10.2		11.4	-0 3	- 4.9		77	87	10.5		12.3	+0 25	- 9.6	
68	71	10.2		11.4	-0 47	+ 5.2		78	104	10.8		13.2	-0 4	+ 0.7	H. y
69	72	10.2		11.4	+0 8	- 2.0	„ a								
70	74	10.2		11.5	-0 21	+ 6.9									

\* (27 + 47) = BD. + 46° 3088, 9<sup>M</sup>.3

\*\* (28 + 34) = BD. + 46° 3091, 9<sup>M</sup>.5

\*\*\* (30 + 37) = BD. + 47° 3212, 9<sup>M</sup>.3

\*\*\*\* Hartwig, AN. 3553 (litterae).

$$M = 9.2 + 0.020 (G - 23.3).$$

7571a

## TW Cygni

 $20^h 59^m 49^s$  (1855.0)  $+28^\circ 49'.7$ Max. = 2 415 977<sup>d</sup> (15 Augusti 1902)  $+347^d$  E.\*

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6 <sup>M</sup> .1	5 <sup>M</sup> .6	+2 <sup>m</sup> 40 <sup>s</sup>	+47'.6	PD. 5 <sup>M</sup> .98 W**	31	31	9 <sup>M</sup> .7	9 <sup>M</sup> .4	10 <sup>M</sup> .2	+0 <sup>m</sup> 9 <sup>s</sup>	+30'.1	
2			7.0	7.0	-2 31	-18.3	„ 7.06 WG	32	32	9.8		10.3	-1 54	+ 9.0	
3			8.4		+2 44	+18.0		33	34	9.8	9.5	10.4	-0 54	+23.3	
4			8.0		-0 31	-18.6		34	36	9.9		10.5	-0 30	+18.0	
5	0	8 <sup>M</sup> .8	8.9	8.9	+0 55	+ 4.8		35	38	9.9	9.5	10.6	+0 15	+11.4	
6	4	8.9	9.0	9.0	+0 39	+35.0		36	38	9.9		10.6	+0 48	- 8.4	
7	5	9.0	9.0	9.1	+1 31	- 4.9		37	40	10.0		10.7	+0 16	+23.9	***
8	9	9.1	9.0	9.2	+1 48	+20.9		38	41	10.0		10.8	+0 26	+ 8.4	
9	10	9.1	8.8	9.3	-0 23	+17.7		39	44	10.1		10.9	+0 39	+ 9.4	
10	10	9.1	9.2	9.3	-2 23	+23.3		40	45	10.2		10.9	+0 20	-11.6	
11	11	9.1	9.2	9.3	+1 46	- 6.7		41	46	10.2		11.0	+0 12	-11.7	
12	12	9.2	9.4	9.4	-1 28	-21.5		42	48	10.2		11.1	-0 10	- 5.1	
13	13	9.2	9.3	9.4	+0 56	+ 0.6		43	49	10.3		11.2	+0 53	- 2.7	
14	14	9.2	9.2	9.5	-1 21	-20.9		44	52	10.4		11.3	-0 44	+ 8.3	
15	15	9.3	9.3	9.5	-1 30	-10.5		45	52	10.4		11.3	-0 50	-12.6	
16	18	9.3	9.2	9.6	+1 31	+ 3.8		46	53	10.4		11.4	+0 33	-10.8	
17	18	9.3		9.6	+0 21	+24.5	***	47	56	10.5		11.6	+0 50	+15.3	
18	18	9.3	9.5	9.6	-1 13	+ 9.6		48	59	10.6		11.8	-0 26	- 4.5	
19	20	9.4	9.4	9.7	+1 0	-18.6		49	61	10.6		11.9	-0 46	- 9.3	
20	20	9.4	9.3	9.7	+1 0	+25.7		50	61	10.6		11.9	+0 10	-11.4	
21	20	9.4	9.4	9.7	+1 2	- 1.8		51	61	10.6		11.9	+0 36	- 5.1	
22	21	9.4		9.8	+1 30	+ 3.1		52	63	10.7		12.0	+0 45	+14.1	
23	21	9.4	9.4	9.8	-0 10	+ 7.2		53	65	10.8		12.1	0 0	+ 8.4	
24	22	9.5	9.5	9.8	+1 19	+ 6.9		54	66	10.8		12.2	-0 19	- 5.9	
25	22	9.5		9.8	+1 2	-21.6		55	67	10.8		12.3	-0 54	- 7.8	
26	22	9.5	9.4	9.8	-1 52	+ 9.6		56	67	10.8		12.3	-0 5	+ 7.8	
27	22	9.5	9.5	9.8	-1 57	+21.0		57	67	10.8		12.3	+0 39	+ 5.9	
28	23	9.5	9.5	9.9	-0 34	+ 8.3		58	69	10.9		12.4	-0 13	- 2.7	
29	26	9.6	9.5	10.0	-0 22	+11.2		59	71	10.9		12.5	+0 39	+ 6.1	
30	30	9.7		10.2	-0 26	+17.1		60	72	11.0		12.6	+0 30	+12.3	

\* Irregularitas periodica?

\*\*  $\Sigma 2762$ ; trpl.: AB = 31'', AC = 58''.\*\*\* (17 + 37) = BD. + 29° 43'12, 9<sup>M</sup>.5.

$$M = 9.3 + 0.030 (G - 16.5).$$

7582

## X Cephei

 $21^h 6^m 36^s$  (1855.0)  $+ 82^\circ 29'.1$ Max. =  $2414935^d$  (7 Octobris 1899)  $+ 565^d$  E?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$6^M.0$	$5^M.7$	$-13^m44^s$	$-30'.0$	76 Draconis PD. $6^M.16$ W+ „ 8.07 GW* P. 8.2 a** „ 9.1 b	28	70	$10^M.7$		$11^M.6$	$+1^m54^s$	$-18'.8$	P. $10^M.6$ q
2			7.5	7.8	+19 25	-34.9		29	71	10.7		$11.7$	+2 42	- 9.6	„ 10.9 s
3	0	$8^M.5$	8.5	8.6	+ 1 52	- 4.8		30	77	10.9		$11.9$	+4 51	-15.6	
4	4	8.6	8.6	8.7	-15 28	+ 1.0		31	80	11.0		$12.1$	+3 1	+ 3.8	
5	13	8.9	9.3	9.1	+ 0 25	- 4.0		32	84	11.1		$12.3$	+7 20	+ 6.6	
6	16	9.0	9.2	9.2	-11 48	- 8.3		33	84	11.1		$12.3$	-4 12	+ 7.0	
7	17	9.0	9.1	9.3	- 1 20	+23.9		34	84	11.1		$12.3$	-5 33	+ 9.3	
8	21	9.2	9.3	9.4	+11 18	-18.9		35	86	11.2		$12.4$	-7 37	+ 2.5	
9	23	9.2	9.4	9.5	+10 22	-15.0							-2 5	- 3.6	„ 12.0 m
10	26	9.3	9.3	9.6	+ 6 12	+33.0		36	86	11.2		$12.4$	-1 30	- 3.6	„ 12.0 h
11	27	9.4	9.5	9.7	-13 49	-21.9		37	89	11.3		$12.6$	+3 33	+ 6.0	
12	30	9.5	9.4	9.8	+13 55	- 3.0		38	92	11.4		$12.7$	-0 25	+ 5.1	„ 12.3 k
13	30	9.5	9.5	9.8	-12 31	-22.7		39	95	11.5		$12.9$	-0 19	+ 1.2	„ 12.4 e
14	33	9.5	9.5	9.9	- 8 47	+ 9.1							-3 10	- 3.2	„ 12.7 n
15	38	9.7	9.5	10.1	- 5 27	-25.7		40	100	11.6		$13.2$	-0 10	+ 2.1	„ 12.7 g
16	42	9.8	9.5	10.3	+15 55	0.0							-2 24	- 0.4	„ 12.8 l
17	47	10.0		10.5	+ 4 44	+ 0.6		41	100	11.6		$13.2$	-1 26	+ 1.2	„ 12.9 d
18	50	10.1	9.5	10.6	+ 7 16	+11.6							-1 18	+ 2.1	„ 13.2 f
19	51	10.1	9.5	10.7	+ 9 34	+29.1							-1 0	+ 2.0	„ 14.0 w
20	52	10.1	9.4	10.7	- 2 18	+23.9							-0 4	- 2.0	„ 14.2 t
21	53	10.2	9.5	10.8	+13 4	+18.6							+0 16	+ 2.1	„ 14.9 u
22	59	10.4	9.5	11.0	+12 27	+10.2							-0 50	- 0.6	„ 15.6 x
23	59	10.4		11.0	- 0 58	-14.3	„ 10.1 r						-0 55	- 0.9	„ 17.0 y
24	62	10.4		11.2	+ 0 2	-18.9	„ 10.2 p								
25	63	10.5		11.3	+ 4 36	+ 4.0									
26	66	10.6		11.4	+ 7 37	-22.7									
27	69	10.7		11.5	+ 4 36	+ 5.2									

\*  $\Sigma$  2807 & Greenwich  $g_{y_2}$ :  $8^M.3 + 8^M.2$  ( $1^s.07$ ,  $1''.7$ ).

\*\* Parkhurst, APJ. vol. XVII, 1903 p. 50 Tab. I.

$$M = 9.3 + 0.031 (G - 25.1).$$

7590

## Z Capricorni

 $21^{\text{h}} 2^{\text{m}} 32^{\text{s}}$  (1855.0)  $-16^{\circ} 45'.6$ Max. =  $2\ 413\ 525^{\text{d}}$  (27 Novemb. 1895)  $+356^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .0	6 <sup>M</sup> .9	-1 <sup>m</sup> 14 <sup>s</sup>	-26'.7		21	87	10 <sup>M</sup> .6		11 <sup>M</sup> .5	-0 <sup>m</sup> 30 <sup>s</sup>	+ 8'.7	
2			7.2	7.4	-0 29	+28.5		22	93	10.7	10 <sup>M</sup>	11.7	-1 25	+ 6.0	
3	0	8 <sup>M</sup> .4	8.5	8.3	+2 5	+18.9		23	97	10.8		11.9	-1 0	+13.2	
4	4	8.5	8.5	8.4	-1 27	+ 0.8		24	100	10.9		12.0	+0 26	+11.4	
5	5	8.5	8.5	8.5	+0 45	+ 8.9		25	106	11.1		12.2	-0 34	+14.4	
6	28	9.1	9.0	9.0	+0 37	-12.4		26	110	11.2		12.3	+0 13	+11.7	
7	38	9.4	9.4	9.8	-1 48	-10.5		27	114	11.3		12.5	+0 42	+11.7	
8	45	9.5	9.5	10.0	-0 58	+ 3.0		28	114	11.3		12.5	-0 9	+ 9.6	
9	48	9.6	9.7	10.1	+1 35	+ 0.9		29	117	11.3		12.6	+0 49	-12.7	
10	51	9.7	9.9	10.2	-1 24	+27.0		30	120	11.4		12.7	+0 58	-12.2	
11	57	9.8	9.5	10.5	+1 41	-24.5		31	123	11.5		12.8	+0 6	- 4.2	
12	60	9.9	9.8	10.6	+2 12	-24.5		32	128	11.6		13.0	+1 4	- 7.9	
13	60	9.9	10	10.6	+0 11	-26.9		33	129	11.6		13.0	+0 18	+ 5.1	
14	62	10.0	9.9	10.7	+0 6	+ 7.5		34	131	11.7		13.1	+0 39	+ 0.1	
15	67	10.1	9.8	10.8	+0 4	+ 3.2		35	134	11.8		13.2	-0 19	+ 5.7	
16	73	10.2	10	11.0	+0 4	-24.3		36	135	11.8		13.2	-0 39	- 5.5	
17	75	10.3	9.5	11.1	+1 24	+27.2		37	137	11.8		13.3	-0 43	- 4.8	
18	76	10.3	9.8	11.2	+0 58	-20.1		38	141	11.9		13.4	-0 46	- 5.4	
19	81	10.4	10	11.3	-1 20	+26.9		39	141	11.9		13.4	-0 17	- 3.9	
20	84	10.5		11.4	-1 1	-11.2									

$$M = 9.0 + 0.025 (G - 23.4).$$

7594

## RS Aquarii

 $21^{\text{h}} 3^{\text{m}} 22^{\text{s}}$  (1855.0) —  $4^{\circ} 36'.9$ Max. =  $2414883^{\text{d}}$  (16 Augusti 1899) +  $214^{\text{d}}$  E?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .8	7 <sup>M</sup> .8	8 <sup>M</sup> .1	-1 <sup>m</sup> 39 <sup>s</sup>	+ 8'.2		23	55	9 <sup>M</sup> .7	9 <sup>M</sup> .7	10 <sup>M</sup> .7	+0 <sup>m</sup> 27 <sup>s</sup>	+ 4'.2	
2	4	8.0	7.8	8.2	+2 15	-15.2		24	57	9.7	9.6	10.8	+1 19	-28.7	
3	8	8.1	8.3	8.4	+1 21	-32.6		25	59	9.8	9.7	10.9	+1 14	+14.4	
4	9	8.1	8.0	8.5	-1 54	+13.6		26	61	9.9	9.5	11.0	-1 21	- 2.9	
5	11	8.2	8.0	8.6	+0 18	- 6.9		27	66	10.0		11.3	-0 49	+11.7	
6	14	8.3	8.3	8.7	+1 37	-16.9		28	67	10.1		11.3	-0 33	+11.8	
7	19	8.5	8.5	8.9	+0 31	+37.3		29	69	10.1		11.4	+0 34	- 0.6	
8	22	8.6	8.7	9.0	+2 16	+ 0.9		30	72	10.2		11.6	-0 16	- 7.8	
9	24	8.6	9.0	9.1	+0 39	+31.4		31	75	10.3		11.8	-0 12	-16.2	
10	26	8.7	8.8	9.2	-0 31	+ 7.1		32	75	10.3		11.8	+0 54	+14.7	
11	28	8.8	8.9	9.3	-0 41	+35.9		33	79	10.4		11.9	+0 17	-14.3	
12	30	8.8	9.0	9.4	+2 0	+ 8.1		34	80	10.5		12.0	+0 49	+12.8	
13	36	9.0	9.4	9.7	+2 0	+36.6		35	81	10.5		12.1	-0 58	+ 9.9	
14	41	9.2	9.3	10.0	+0 50	+ 4.8		36	84	10.6		12.2	-0 6	+12.9	
15	42	9.2	9.4	10.0	+1 16	+21.4		37	87	10.7		12.4	-0 17	+13.2	
16	44	9.3	9.1	10.1	-1 24	- 3.6		38	90	10.8		12.6	-0 35	+ 6.2	
17	46	9.4	9.4	10.2	-1 25	-26.3		39	91	10.8		12.7	+0 14	- 3.1	
18	48	9.4	9.7	10.3	-0 4	- 4.2		40	94	10.9		12.8	+0 1	- 2.7	
19	49	9.5	9.3	10.4	-0 35	+15.7		41	98	11.1		13.0	+0 7	- 3.4	
20	51	9.5	9.5	10.5	-1 16	+11.4		42	104	11.3		13.3	+0 4	- 2.1	
21	53	9.6	9.5	10.6	+0 30	+ 2.5									
22	55	9.7	9.5	10.7	-0 15	+11.3									

$$M = 9.1 + 0.033 (G - 38.1).$$

7619

## RR Aquarii

 $21^h 7^m 28^s$  (1855.0) —  $30 29'.7$ Max. = 2415 128<sup>d</sup> (18 Aprilis 1900) + 190<sup>d</sup>5 E?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7 <sup>M</sup> .0	7 <sup>M</sup> .2	+0 <sup>m</sup> 3 <sup>s</sup>	+19'.4		19	64	10 <sup>M</sup> .0	10 <sup>M</sup>	11 <sup>M</sup> .0	-1 <sup>m</sup> 32 <sup>s</sup>	+15'.9	
2	0	8 <sup>M</sup> .3	8.5	8.4	+3 36	-15.6		20	65	10.0		11.1	-0 54	+ 6.1	
3	1	8.3	8.7	8.4	+0 35	+21.0		21	71	10.2		11.3	-0 30	+12.3	
4	6	8.4	8.3	8.6	-0 56	+ 8.8		22	72	10.2		11.4	-0 10	+ 9.9	
5	16	8.7	8.9	9.0	-0 30	+37.9		23	79	10.4		11.7	+0 26	- 6.6	
6	29	9.1	9.4	9.5	+3 8	-23.0		24	84	10.6		11.9	-0 51	- 8.7	
7	32	9.2	9.1	9.6	-0 48	-32.1		25	84	10.6		11.9	-0 21	- 3.3	
8	40	9.4	9.1	10.0	-0 34	- 7.9		26	89	10.7		12.2	-0 7	+ 8.3	
9	43	9.4	9.6	10.1	+1 23	+14.2		27	90	10.7		12.3	+0 4	-12.9	
10	45	9.5	9.5	10.2	+1 3	-23.0		28	91	10.7		12.3	+0 2	+13.8	
11	49	9.6	9.6	10.3	-1 19	-18.6		29	92	10.8		12.4	-0 18	+ 7.4	
12	50	9.6	9.7	10.4	+0 28	-19.3		30	93	10.8		12.4	+0 5	-12.6	
13	52	9.7	9.6	10.5	-1 15	-26.7		31	94	10.8		12.5	+0 7	+ 5.3	
14	53	9.7	9.6	10.5	-1 27	+31.1		32	97	10.9		12.6	0 0	-12.7	
15	54	9.7	9.5	10.6	-0 8	- 8.8		33	101	11.0		12.8	+0 28	-10.3	
16	59	9.9	9.9	10.7	-1 52	- 0.2		34	103	11.1		13.0	+0 40	- 6.3	dpl.
17	60	9.9	10	10.8	-1 59	-22.0		35	123	11.6		14.0	-0 1	+ 0.7	
18	61	9.9	9.8	10.9	-0 28	+18.1									

$$M = 9.1 + 0.027 (G - 30.1).$$

7793

## SS Cygni

 $21^{\text{h}} 37^{\text{m}} 1^{\text{s}}$  (1855.0)  $+42^{\circ} 55'.7$ 

Typus Antalgol. Periodus irregularis.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .2	5 <sup>M</sup> .3	-2 <sup>m</sup> 31 <sup>s</sup>	-18'.6	75 Cygni *	38	100	9 <sup>M</sup> .8	9 <sup>M</sup> .5	10 <sup>M</sup> .4	-2 <sup>m</sup> 39 <sup>s</sup>	+12'.7	
2	0	7 <sup>M</sup> .0	6.5	6.6	+3 32	-32.3	PD. 5 <sup>M</sup> .20 RG—	39	101	9.8	9.3	10.4	+1 53	+ 9.9	
3	22	7.6	8.5	7.8	+2 1	- 9.6	„ 6.73 GW	40	102	9.8		10.4	+1 1	-11.7	
4	41	8.1	8.3	8.5	+0 27	- 0.2	P. 8.01**	41	104	9.9	9.5	10.5	-0 38	+19.5	
5	49	8.3	8.2	8.6	+2 42	+20.9	„ 8.5 b	42	106	9.9		10.6	-0 35	- 0.6	P. 11 <sup>M</sup> .3 e
6	55	8.5	8.6	8.8	+1 39	+12.9	„ 8.9 w	43	109	10.0		10.7	-0 15	- 1.1	„ 10.9 d
7	57	8.6	8.8	8.9	+2 7	-30.6		44	110	10.0		10.8	-0 8	+ 7.8	„ 10.9 n
8	58	8.6	8.5	8.9	+2 30	-15.6		45	110	10.0		10.8	+0 9	+13.5	
9	58	8.6	8.3	8.9	+3 13	-23.3		46	113	10.1		10.9	+1 23	+ 0.6	
10	61	8.7	8.5	9.0	+2 33	-18.1		47	115	10.2		11.0	+0 18	+ 6.3	„ 10.9 p
11	63	8.7	8.8	9.1	+0 54	+29.3		48	117	10.2		11.1	-0 53	+11.8	
12	66	8.8	9.0	9.2	-2 20	+21.9		49	119	10.3		11.2	+0 52	+ 0.9	
13	67	8.8	8.9	9.2	+1 36	+ 7.1		50	122	10.4		11.3	+0 38	+ 0.9	
14	68	8.9	8.7	9.2	-0 56	+24.2	„ 9.2 z	51	122	10.4		11.3	+1 7	- 8.1	
15	70	8.9	9.1	9.3	-1 5	-29.3		52	124	10.4		11.4	+1 16	+ 5.9	
16	70	8.9	9.0	9.3	+1 23	+ 7.1		53	125	10.5		11.4	+0 47	-12.5	
17	72	9.0	9.2	9.4	+2 3	+10.5		54	126	10.5		11.5	-0 51	- 8.9	
18	75	9.1	9.3	9.5	+1 55	+11.1		55	126	10.5	9.5	11.5	+0 19	+16.0	
19	76	9.1	9.2	9.5	0 0	+ 8.1	„ 9.4 c	56	130	10.6		11.7	-1 16	+ 8.7	
20	78	9.2	9.0	9.6	+1 10	-25.2		57	130	10.6		11.7	-0 7	+ 3.9	„ 11.8 m
21	79	9.2	9.0	9.6	-1 6	-19.8		58	131	10.6		11.7	+1 6	+ 5.9	
22	81	9.2	9.2	9.7	-0 21	- 0.9	„ 9.6 a	59	134	10.7		11.8	-0 46	- 5.7	
23	82	9.3	9.4	9.7	+0 57	-29.1		60	134	10.7		11.8	+1 16	+ 9.3	
24	83	9.3	9.3	9.8	+2 52	+10.6		61	137	10.8		12.0	-0 31	- 2.6	„ 12.0 g
25	84	9.3	9.5	9.8	+2 51	+ 6.3		62	137	10.8		12.0	-0 5	- 5.7	„ 12.0 q
26	84	9.3	8.8	9.8	-0 8	-19.8		63	137	10.8		12.0	-0 18	-13.5	
27	85	9.3	9.3	9.8	+2 52	+16.5		64	137	10.8		12.0	+0 45	- 6.9	
28	85	9.3	9.5	9.8	-2 51	+15.0		65	137	10.8		12.0	+1 6	+ 8.4	
29	88	9.4	9.0	9.9	-2 17	+18.3		66	140	10.9		12.1	-0 9	- 0.6	„ 12.4 h
30	88	9.4	9.5	9.9	-2 48	+ 3.4		67	141	10.9		12.2	+1 23	- 0.6	
31	90	9.5	9.4	10.0	+0 39	-25.1		68	144	11.0		12.3	+0 4	+ 5.7	„ 12.1 o
32	93	9.6		10.1	-0 27	+12.7		69	145	11.0		12.4	-0 11	+10.8	
33	93	9.6	9.5	10.1	-1 30	+29.1		70	146	11.1		12.5	+0 5	+ 9.5	
34	94	9.6	9.4	10.1	+1 11	+12.2		71	147	11.1		12.5	-1 6	+ 4.2	
35	96	9.7	9.5	10.2	-1 11	-11.7		72	150	11.2		12.7	-1 20	+11.7	
36	96	9.7	9.5	10.2	-0 51	-11.1		73	155	11.3		13.0	+0 3	- 0.6	„ 13.1 k
37	98	9.7	9.5	10.3	-0 11	+19.0					8.4		-3 13	-19.0	BD. + 42° 4172 ***

\* OZ<sup>2</sup> 221, 54<sup>1</sup>/<sub>2</sub>''.

\*\* Parkhurst and Daniel, ApJ. vol. XII, 1900, p. 260 (magnitudines in scala Harvard, et litterae).

\*\*\* Per errorem designata UU Cygni (vide Pickering, Cat. II 1907 no. 213542).

$$M = 9.0 + 0.028 (G - 72.6).$$

7896

## V Pegasi

 $21^h 53^m 47^s$  (1855.0) +  $5^\circ 25'.5$ Max. =  $2413353^d$  (8 Junii 1895) +  $303^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$6^M.0$	$6^M.0$	$-0^m 54^s$	$+35'.9$	PD. $6^M.24$ W, 18 Pegasi	26	57	$10^M.0$	$9^M.5$	$11^M.0$	$+0^m 53^s$	$+18'.0$	
2	0	$7^M.8$	$7^M.0$	7.8	-3 1	-10.5	n 7.55 GW, sp} * n 8.05 GW, nf}	27	59	10.1		11.1	+0 44	- 8.1	
3	3	7.9		8.0	-3 1	-10.3		28	59	10.1		11.1	+1 4	+20.6	
4	3	7.9		8.0	-2 26	- 6.0		29	59	10.1	(9.5)	11.1	-1 42	+12.6	dpl.
5	10	8.2	8.3	8.4	-0 29	- 8.7		30	60	10.1		11.2	+0 39	-24.4	
6	15	8.4	8.4	8.6	0 0	-17.3		31	62	10.2		11.3	-0 10	+13.2	
7	18	8.5	9.2	8.8	-2 31	- 7.2		32	65	10.3		11.5	-0 50	0.0	
8	27	8.8	8.8	9.3	-0 17	+12.6		33	66	10.3		11.5	-0 3	- 8.9	
9	33	9.1	9.3	9.7	-0 11	-15.7		34	69	10.4		11.7	-0 15	+23.6	**
10	35	9.2	9.2	9.8	-0 46	+21.5		35	71	10.5		11.8	-0 16	- 0.3	
11	35	9.2	9.2	9.8	-2 0	+24.5		36	73	10.6		11.9	-0 53	-11.7	
12	36	9.2	9.3	9.8	-0 34	+25.1		37	73	10.6		11.9	-0 10	+ 8.7	
13	39	9.3	(9.4)	10.0	-1 7	+22.4	dpl.	38	74	10.6		12.0	+0 36	+11.1	
14	39	9.3	9.5	10.0	+1 11	+30.0		39	77	10.8		12.1	+0 45	+ 8.7	
15	41	9.4	9.3	10.1	-0 49	- 2.2		40	77	10.8		12.1	-0 15	+ 6.6	
16	45	9.5	9.4	10.4	+1 35	-18.9		41	79	10.8		12.2	-0 4	+ 6.0	
17	47	9.6	9.5	10.5	+1 1	+33.8		42	82	10.9		12.4	+0 41	+13.5	
18	48	9.6	$9^M.0$	10.5	-1 33	+ 9.8		43	86	11.1		12.6	+0 18	+ 6.6	
19	49	9.7		10.6	-1 32	+ 9.9		44	90	11.2		12.8	-0 54	+12.9	
20	49	9.7	9.5	10.6	+0 15	+ 3.2		45	(91)	11.3	9.5	12.9	-0 34	- 0.6	var. ? ***
21	50	9.7		10.6	+0 52	+10.1		46	93	11.4		13.0	+0 5	+10.8	
22	(51)	9.8		10.7	-0 29	- 2.9	dpl.						+0 7	- 2.5	
23	51	9.8		10.7	+0 6	+ 4.2									
24	54	9.9	9.5	10.8	+1 42	- 4.2									
25	55	9.9	9.5	10.9	+0 32	-27.2									

\* (2 + 3) =  $\Sigma 2848$ , HP. =  $6^M.65$ \*\* 34 = BD. +  $5^\circ 49'25$ ,  $9^M.5$  (-  $19^s$ , +  $26'.0$ )?\*\*\* Vix apparens 8 Aug. 1899 (caelo sereno); invisibilis 2 Octobr. 1899, Sept. 1901, Aug. 1902;  $11^M.3$  die 15 Septembr. 1903.

$$M = 8.8 + 0.038 (G - 25.7).$$

7961 &amp; 7964

## Y &amp; RS Pegasi

 $22^h 4^m 54^s$  (1855.0) +  $13^\circ 44'.8$ Y Max. =  $2415324^d$  (31 Oct. 1900) +  $203^d.3$  E.RS Max. =  $2416279^d$  (13 Junii 1903) +  $436^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$6^M.2$	$6^M.4$	$-1^m35^s$	$+10'.5$	$\Sigma 2869, 21\frac{1}{2}''$ PD. $6^M.60$ WG	23	69	$10^M.2$		$11^M.6$	$-0^m30^s$	$+12'.6$	G. n. 2
2	0	$8^M.3$	8.2	8.3	-1 37	-42.3		24	71	10.2		11.7	+0 36	- 6.1	„ n
3	1	8.3	8.3	8.4	+0 51	+33.0		25	72	10.3		11.7	+0 12	-12.0	„ m
4	7	8.5	8.8	8.7	-2 1	-40.6		26	76	10.4	$9^M.5$	11.9	-1 29	-25.5	BD. $\Delta\alpha = -1^m38^s$
5	7	8.5	8.5	8.7	+0 48	-33.3		27	78	10.4		12.0	-0 56	- 8.4	G. h
6	11	8.6	8.7	8.9	-1 8	-30.6		28	81	10.5		12.1	-0 23	+12.0	
7	15	8.7	9.1	9.0	+1 55	-34.9		29	81	10.5		12.1	+0 53	+ 4.8	
8	31	9.2	9.5	9.8	-0 14	- 1.2	G. n. 5 a *	30	83	10.6		12.2	-0 20	+10.7	
9	32	9.2	9.2	9.9	-1 43	+15.0		31	85	10.6		12.3	+0 20	+12.3	„ n. 7 p
10	33	9.2	9.3	9.3	+0 25	+23.1		32	88	10.7		12.4	-0 22	+ 4.5	„ g
11	38	9.3		10.1	-1 52	+15.4		33	91	10.8		12.5	+0 45	+10.6	
12	41	9.4	9.5	10.3	+2 10	- 9.7		34	93	10.8		12.6	-0 39	+ 5.7	
13	46	9.6		10.5	-0 19	-29.6		35	94	10.9		12.7	-0 44	- 4.2	„ r
14	48	9.6	9.3	10.6	-0 19	-21.9	BD. $\Delta\delta = -19'.8$	36	102	11.1		13.0	-0 27	- 2.7	
15	51	9.7	9.5	10.7	+0 59	- 6.9	G. n. 10	37	107	11.2		13.2	-0 24	- 2.7	„ k
16	52	9.7	9.5	10.8	+1 12	+ 4.5		38	107	11.2		13.2	+1 52	+ 3.6	
17	52	9.7	9.5	10.8	-0 40	+ 4.2	„ n. 1 c						+0 18	+ 4.4	„ d 11 <sup>M</sup> .2
18	55	9.8	9.3	10.9	+0 15	+ 6.9	„ n. 6 b						+0 14	+ 6.1	„ e 11.7
19	58	9.9		11.1	-0 16	+ 6.0	„ n. 4 f	Y			var.		-0 19	- 5.6	
20	61	10.0		11.2	+0 50	+ 7.8	„ n. 9	RS			var.		+0 19	+ 5.6	**
21	63	10.0		11.3	+1 56	+ 1.8									
22	67	10.1		11.5	+0 40	- 9.9									

\* Graff AN. 3796 (numeri); Hamburg. Mitt. 8 p. 33 (litterae).

\*\* ? = BD. +  $13^\circ 48'6''$  a (+  $14^s$ , +  $3'.3$ ),  $9^M.5$  observata Bonnae 26 Aug. 1854. Confer similes errores in  $\Delta\alpha$  et  $\Delta\delta$  stellarum 26 et 14.

$$M = 9.0 + 0.027 (G - 25.3).$$

7999

## X Aquarii

 $22^{\text{h}} 10^{\text{m}} 40^{\text{s}}$  (1855.0)  $-21^{\circ} 37'.4^*$ Max. =  $2413365^{\text{d}}$  (20 Iunii 1895)  $+315^{\text{d}}$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$5^{\text{M}}.7$	$5^{\text{M}}.4$	$+2^{\text{m}}56^{\text{s}}$	$-41'.4$	Fl. 47 UA. 135, $5^{\text{M}}.6$ , r	18	116	$9^{\text{M}}.9$		10.7	$-0^{\text{m}}21^{\text{s}}$	$-0'.5$	
2	0	$7^{\text{M}}.8$	7.7	7.2	-0 5	+ 9.8		19	122	10.0	$9^{\text{M}}.8$	10.9	+1 39	+23.8	
3	14	8.0	8.0	7.5	-4 34	-30.2		20	124	10.0	9.7	11.0	-0 7	-15.8	
4	42	8.5	8.6	8.3	-3 0	-22.1		21	124	10.0	9.8	11.0	-1 20	-29.8	
5	48	8.6	8.6	8.5	-0 13	- 5.9		22	129	10.1	9.8	11.1	+1 10	+ 2.9	
6	54	8.7	8.8	8.7	-0 40	+24.5		23	130	10.1		11.2	-0 48	+18.9	
7	59	8.8	9.0	8.8	-0 7	+24.6		24	134	10.2		11.4	-0 49	- 8.3	
8	62	8.9	9.0	8.9	-0 1	+21.0		25	143	10.3	10	11.6	+1 11	-11.9	
9	63	8.9	9.2	9.0	-2 31	-12.9		26	150	10.5		11.9	-0 37	-12.9	
10	63	8.9	8.8	9.0	-0 26	-31.5		27	151	10.5	9.9	11.9	-1 38	-14.4	
11	69	9.0	8.9	9.1	+1 18	-24.8		28	153	10.5		12.0	+1 12	+14.7	
12	69	9.0	9.1	9.1	-1 4	+26.2		29	175	10.9		12.8	-0 40	+12.0	
13	70	9.0	9.1	9.2	-2 39	-23.3		30	180	11.0		13.0	+0 56	- 2.4	
14	83	9.3	9.3	9.6	-0 25	+18.2		31	181	11.0		13.0	+0 42	+ 8.1	
15	85	9.3	9.3	9.7	-0 7	+20.2		32	182	11.0		13.1	-0 3	-10.2	
16	99	9.5	9.5	10.2	+0 46	+ 6.2		33	192	11.2		13.4	+0 12	- 3.1	
17	104	9.6	9.5	10.3	+0 49	-12.8							-0 2	- 4.3	

Hartwig 13<sup>M</sup>\* In Charta lege:  $-21^{\circ} 24'.0$ .

$$M = 8.9 + 0.018 (G - 63.0).$$

8026

## RT Aquarii

 $22^{\text{h}} 15^{\text{m}} 13^{\text{s}}$  (1855.0) —  $22^{\circ} 47'.2$ Max. =  $2\ 416\ 018^{\text{d}}$  (25 Septembris 1902) +  $241^{\text{d}}$  E?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .7	5 <sup>M</sup> .4	-1 <sup>m</sup> 37 <sup>s</sup>	+27'.6	CoD. 5 <sup>M</sup> .6	19	51	10 <sup>M</sup> .1		11 <sup>M</sup> .6	+0 <sup>m</sup> 19 <sup>s</sup>	-30'.6	CoD. 10 <sup>M</sup>
2			7.5	7.4	+1 4	+27.5	„ 7.5	20	54	10.2		11.7	-0 6	+17.9	„ 10
3	0	8 <sup>M</sup> .5	8.8	8.9	+2 26	+27.2	„ 8.5	21	56	10.2		11.8	-0 18	+23.3	„ 10
4	3	8.6	8.5	9.0	+1 9	-12.2	„ 8.5	22	59	10.3		12.0	+0 44	+ 4.8	„ 10
5	6	8.7	8.8	9.2	-2 3	+25.4	„ 8.8	23	61	10.4		12.1	+0 28	+11.9	„ 10
6	14	9.0		9.6	-2 7	-25.4	„ 8.7	24	63	10.4		12.2	+0 51	+15.6	„ 10
7	16	9.0	9.0	9.7	-0 29	- 6.6	„ 9.0	25	67	10.5		12.4	+0 39	-13.9	„ 10
8	19	9.1	9.0	9.9	-2 11	+24.5	„ 9.2	26	68	10.6		12.4	+0 46	- 3.9	„ 10
9	21	9.2	9.0	10.0	+0 42	+ 8.9	„ 9.0	27	68	10.6		12.4	-0 32	- 2.7	„ 10
10	27	9.3		10.3	-2 11	- 6.7	„ 9.6	28	72	10.7		12.6	+0 20	- 1.5	„ 10
11	29	9.4		10.4	+1 19	-27.2	„ 9.4	29	72	10.7		12.6	+0 22	-13.2	„ 10
12	30	9.4		10.5	+0 21	-29.8	„ 9.4	30	73	10.7		12.7	-0 48	- 3.1	
13	33	9.5		10.6	+1 18	-18.6	„ 9.6	31	75	10.8		12.8	+0 59	+11.4	
14	36	9.6		10.8	+0 38	-15.1	„ 9.6	32	80	10.9		13.0	+0 14	+ 5.7	
15	39	9.7	9.7	10.9	+1 40	- 8.3	„ 9.8	33	87	11.1		13.3	+0 6	+ 6.6	
16	41	9.8		11.0	+0 58	-28.1	„ 9.5	34	90	11.2		13.5	+0 18	- 3.3	
17	43	9.8	9.9	11.1	-1 22	+ 8.2	„ 9.6	35	90	11.2		13.5	-0 10	- 0.7	
18	51	10.1		11.6	+0 30	- 3.3	„ 9.9								

$$M = 9.4 + 0.030 (G - 28.7).$$

## V Cassiopeiae

23<sup>h</sup> 5<sup>m</sup> 27<sup>s</sup> (1855.0) + 58° 54'.5Max. = 2 412 789<sup>d</sup> (21 Novembris 1893) + 231<sup>d</sup>.5 E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .3	4 <sup>M</sup> .9	-5 <sup>m</sup> 0 <sup>s</sup>	-17'.1	PD. 4 <sup>M</sup> .97 W+, 1 Cass.	41	93	10 <sup>M</sup> .4		10 <sup>M</sup> .8	+0 <sup>m</sup> 32 <sup>s</sup>	- 6'.1	
2			6.1	5.6	-1 56	-21.8	„ 5.82 GW+, 2 „	42	93	10.4		10.8	+0 45	0.0	
3			6.5	6.3	-4 26	+ 2.1	„ 6.64 GW- *	43	96	10.5		10.9	-0 3	- 2.9	
4	0	7 <sup>M</sup> .7	7.3	7.7	-4 13	-42.5	„ 7.31 WG	44	97	10.5		10.9	-0 36	+ 8.3	
5	18	8.2	8.3	8.3	-1 49	-24.5		45	100	10.6		11.0	-1 55	+ 0.1	
6	25	8.4	8.5	8.6	-2 37	+27.9		46	101	10.6		11.0	+1 55	- 4.8	
7	25	8.4	8.5	8.6	+2 16	+ 6.9		47	102	10.7		11.1	+0 39	- 6.2	
8	30	8.6	8.4	8.8	+2 20	-19.9		48	102	10.7		11.1	+0 41	-10.8	
9	32	8.6	8.8	8.9	-0 47	+30.7		49	103	10.7		11.1	+0 57	- 0.4	
10	33	8.7	8.6	9.0	+1 57	-24.6		50	106	10.8		11.2	-1 40	+ 0.1	
11	37	8.8	9.2	9.1	+3 58	+12.9		51	108	10.8		11.2	-0 8	+ 0.7	
12	38	8.8	9.1	9.2	-2 15	+28.3		52	110	10.9		11.3	+1 36	+12.4	
13	41	8.9	9.5	9.3	+0 30	+12.2		53	110	10.9		11.3	-0 28	- 9.9	
14	45	9.0	8.9	9.4	-0 46	+26.6		54	111	10.9		11.3	+1 53	+12.0	
15	46	9.0	9.0	9.5	-0 41	+16.0		55	113	11.0		11.4	-0 39	- 5.4	
16	48	9.1	9.2	9.5	+2 52	+ 8.2		56	113	11.0		11.4	+1 46	+ 3.2	
17	51	9.2	9.1	9.6	-1 55	+15.7		57	115	11.0		11.4	+1 43	- 5.7	
18	52	9.2	9.3	9.6	+3 19	+24.2		58	117	11.1		11.5	-0 9	+14.9	
19	54	9.3	9.4	9.7	-1 55	- 3.0		59	120	11.2		11.6	-0 13	+ 8.7	
20	55	9.3	9.3	9.7	-1 38	-29.9		60	120	11.2		11.6	+1 54	- 0.3	
21	56	9.3	9.5	9.8	-2 19	+ 6.7		61	123	11.3		11.7	-1 39	- 8.7	
22	59	9.4		9.9	+0 41	+ 8.9		62	126	11.4	9 <sup>M</sup> .5	11.8	-0 23	-25.5	
23	60	9.5	9.4	9.9	-2 23	+27.9		63	126	11.4		11.8	+1 23	- 6.6	
24	61	9.5		9.9	+1 41	-21.0		64	128	11.4		11.8	-0 45	+ 1.3	
25	62	9.5	9.5	10.0	+0 14	+10.9		65	129	11.5		11.8	+0 34	- 3.8	
26	64	9.6	9.5	10.0	-1 4	+12.9		66	132	11.5		11.9	-1 23	- 0.1	
27	67	9.7	9.4	10.1	+2 36	-18.6		67	133	11.6		12.0	+1 28	- 3.9	
28	67	9.7	9.5	10.1	+3 27	+11.5		68	134	11.6		12.0	-1 2	-11.1	
29	68	9.7	9.5	10.1	+0 48	+ 3.2		69	135	11.6		12.0	-0 47	- 1.5	
30	71	9.8	9.5	10.2	+0 5	+14.3		70	136	11.7		12.1	+0 7	-12.0	
31	73	9.8	9.5	10.3	-1 36	+11.7		71	137	11.7		12.1	-1 29	- 0.9	
32	74	9.9	9.5	10.3	-0 3	- 5.9		72	140	11.8		12.2	+1 12	-11.8	
33	75	9.9		10.3	-2 2	-12.8		73	142	11.8		12.3	-0 58	- 1.0	
34	76	9.9		10.4	-0 31	+ 3.0		74	143	11.9		12.3	+0 9	-11.7	
35	77	9.9	9.5	10.4	+3 44	-14.1		75	147	12.0		12.4	-0 24	+ 5.3	
36	80	10.0		10.5	-0 20	-13.5		76	149	12.0		12.5	+1 8	-11.1	
37	81	10.1	9.5	10.5	-0 26	-29.4		77	152	12.1		12.6	-1 5	-10.5	
38	84	10.2		10.6	-1 1	+ 9.7									
39	86	10.2		10.6	+0 8	+ 8.2									
40	90	10.3		10.7	+0 34	+ 4.7									

\* PD. Stella Fund. Nr. 142.

$$M = 8.9 + 0.029 (G - 40.9).$$

8584

## RR Cassiopeiae

 $23^h 48^m 32^s$  (1855.0) +  $52^\circ 55'.1$ Max. =  $2415051^d$  (31 Januarii 1900) +  $309^d$  E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7 <sup>M</sup> .4	7 <sup>M</sup> .3	7 <sup>M</sup> .0	+3 <sup>m</sup> 21 <sup>s</sup>	- 9'.6	PD. 7 <sup>M</sup> .24 W+	38	85	10 <sup>M</sup> .8	11 <sup>M</sup> .0	-1 <sup>m</sup> 34 <sup>s</sup>	- 6'.6		*
2	5	7.6	7.7	7.3	-3 7	+32.8		39	86	10.8	11.0	-0 36	+ 0.6	G. b	
3	7	7.7	7.5	7.4	+0 41	- 0.7	„ 7.70 GW	40	88	10.9	11.1	-1 6	- 7.9	dpl.	
4	8	7.7	8.2	7.5	+0 44	+14.2	*								
5	10	7.8	7.5	7.6	+2 50	-20.6	„ 7.68 WG	41	88	10.9	11.1	+1 21	- 5.1		
								42	89	10.9	11.2	+0 49	-12.0		
6	15	8.0	8.6	7.9	-2 57	+29.8		43	92	11.1	11.3	-1 12	- 5.3		
7	22	8.3	8.2	8.3	+3 10	-28.6		44	92	11.1	11.3	-0 26	- 0.3	G. e	
8	22	8.3	7.5	8.3	-1 0	-13.9	„ 8.39 W+ *	45	93	11.1	11.3	-0 48	- 3.0	dpl.	
9	27	8.5	9.0	8.5	+0 42	+20.8									
10	29	8.5	8.2	8.6	+2 58	- 3.1		46	93	11.1	11.3	-1 7	0.0		
								47	94	11.1	11.4	+1 13	+ 6.9		
11	33	8.7	8.8	8.8	+1 17	+ 1.1		48	94	11.1	11.4	-0 9	+ 6.0		
12	37	8.9	9.3	8.9	+2 34	+25.2		49	95	11.2	11.4	-0 6	- 1.8	G. c	
13	39	8.9	9.0	9.0	-2 46	+33.4		50	95	11.2	11.4	+0 48	- 2.1		
14	39	8.9	9.0	9.0	+3 21	-14.3									
15	40	9.0	8.7	9.1	+2 11	-33.0		51	96	11.2	11.5	-0 48	- 7.8		
								52	97	11.3	11.5	+0 39	-12.3		
16	42	9.1	9.1	9.2	+2 11	+14.8		53	97	11.3	11.5	+0 28	- 0.6		
17	44	9.1	9.0	9.2	+1 59	- 8.7		54	99	11.3	11.6	-0 26	-12.0		
18	47	9.3	9.1	9.4	+2 58	-22.6		55	101	11.4	11.7	-0 9	+ 7.2		
19	47	9.3	9.1	9.4	-1 12	- 0.9									
20	47	9.3	9.1	9.4	-3 3	-15.2		56	102	11.5	11.8	+0 20	+ 2.8	dpl.	
								57	103	11.5	11.8	+0 24	+10.8		
21	50	9.4	9.3	9.5	-2 12	+ 0.7		58	103	11.5	11.8	-0 26	-10.8		
22	52	9.5	9.2	9.6	+2 4	-23.8		59	103	11.5	11.8	0 0	-10.5		
23	53	9.5	9.5	9.6	-2 8	- 8.3		60	103	11.5	11.8	-1 24	+ 9.1		
24	54	9.5	9.2	9.7	-1 1	+24.5									
25	57	9.7	9.4	9.8	+0 53	+21.2		61	103	11.5	11.8	-0 39	+ 9.9		
								62	103	11.5	11.8	-0 47	+11.1	***	
26	58	9.7	9.4	9.8	-1 32	+ 5.7		63	104	11.5	11.9	-0 54	+12.3		
27	63	9.9	9.5	10.1	-1 37	- 1.0		64	106	11.6	12.0	-1 6	+10.0		
28	64	9.9	9.5	10.2	-1 14	+25.2		65	108	11.7	12.1	+0 17	+ 7.2		
29	64	9.9	9.5	10.2	+1 52	+ 2.3									
30	68	10.1		10.2	-0 49	+ 6.2	G. a **	66	109	11.7	12.1	-0 38	+ 3.0		
								67	110	11.8	12.2	-0 41	+ 3.9		
31	71	10.2		10.4	-0 43	+11.1	***	68	111	11.8	12.3	-0 44	+ 2.6		
32	72	10.3	9.5	10.4	-2 9	-11.3		69	131	12.6	13.6	-0 6	- 1.2	G. d 11 <sup>M</sup> .6	
33	74	10.3	9.5	10.5	-2 22	+ 2.3						-0 20	0.0	„ f 11.6	
34	77	10.5		10.6	+0 39	-10.4									
35	80	10.6		10.7	-0 33	- 8.4						-0 17	+ 2.6	„ g 11.8	
												+0 3	- 2.5	„ h 12.7	
36	83	10.7		10.9	+0 55	+ 3.3	G. k								
37	85	10.8		11.0	+1 15	- 1.2									

\* Magnitudines stellarum no. 4 (BD. +  $53^\circ 32'56''$ ) et no. 8 (BD. +  $52^\circ 35'59''$ ) nunc (1902—05) sunt inversae earum quae fuerunt annis 1857 et 59. Quas differentias D. Deichmüller tum examinatis Bonnae manuscriptis tum stellis in caelo observatis confirmavit, stellamque no. 8 aliorum observationibus commendat (AN. 3845, 1902).

\*\* Graff, Hamburg. Mitt. 8 p. 53.

\*\*\* (31 + 62) = BD. +  $53^\circ 32'52''$ , 9<sup>M</sup>.5.

$$M = 8.7 + 0.040 (G - 33.1).$$

8610

## Z Pegasi

 $23^{\text{h}} 52^{\text{m}} 42^{\text{s}}$  (1855.0) +  $25^{\circ} 4'.9$ 

Elementa Variationis ignota.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$4^{\text{M}}.3$	$4^{\text{M}}.8$	$-2^{\text{m}}20^{\text{s}}$	$-44'.5$	$\psi$ Pegasi PD. $4^{\text{M}}.80$ G—	16	64	$10^{\text{M}}.1$		$11^{\text{M}}.3$	$-0^{\text{m}} 9^{\text{s}}$	$+ 3'.0$	
2	0	$7^{\text{M}}.8$	7.8	8.0	+0 23	- 2.4		17	69	10.3		11.6	-0 40	-11.3	
3	13	8.3	8.5	8.6	+1 46	+13.8		18	73	10.4		11.9	-0 54	-10.8	
4	17	8.4	8.5	8.8	-1 11	+13.8		19	73	10.4		11.9	+0 39	+ 6.5	
5	20	8.5	9.0	8.9	-1 57	- 8.3		20	75	10.5		12.0	-0 18	-10.2	
6	22	8.6	9.0	9.0	-0 14	-13.5		21	78	10.6		12.2	-1 5	-10.8	
7	28	8.8	8.5	9.3	-1 14	-24.5		22	78	10.6		12.2	-0 50	+ 2.9	
8	31	8.9	8.9	9.5	-1 7	-18.2		23	78	10.6		12.2	+0 51	- 0.8	
9	39	9.2	9.3	9.9	+1 26	-15.8		24	80	10.7		12.3	+0 45	+ 8.7	
10	41	9.3	9.5	10.0	+1 36	- 7.2		25	80	10.7		12.3	+0 31	- 4.8	
11	42	9.3	9.3	10.0	+1 48	+29.7		26	89	11.0		13.0	-0 22	+ 3.0	
12	47	9.5	9.4	10.3	-1 31	+18.3									
13	49	9.6		10.4	+0 17	- 5.9									
14	53	9.7	9.3	10.6	-1 2	+ 6.2									
15	58	9.9		10.9	-0 5	+ 5.2									

$$M. = 9.0 + 0.036 (G - 33.1).$$

8622

## W Ceti

 $23^{\text{h}} 54^{\text{m}} 41^{\text{s}}$  (1855.0) —  $15^{\circ} 29'.0$ Max. =  $2\,413\,565^{\text{d}}$  (6 Januarii 1896) +  $366^{\text{d}}$  E?

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			$7^{\text{M}}.3$	$7^{\text{M}}.6$	$+3^{\text{M}}19^{\text{s}}$	$+15'.3$		19	73	$10^{\text{M}}.3$		$11^{\text{M}}.8$	$-1^{\text{M}}24^{\text{s}}$	$+27'.2$	
2	0	$8^{\text{M}}.3$	8.3	8.6	+0 41	-21.8		20	76	10.3		$11.9$	-0 30	+ 5.1	
3	4	8.4	8.5	8.8	-1 44	+11.4		21	79	10.4		$12.0$	+1 57	+23.9	
4	19	8.8	8.8	9.4	+3 37	-16.1		22	80	10.5		$12.1$	+0 27	- 8.1	
5	22	8.9	9.0	9.6	+3 14	-23.0		23	83	10.5		$12.2$	-1 13	-26.9	
6	24	8.9	9.0	9.7	+1 33	+35.6		24	83	10.5		$12.2$	+1 26	0.0	
7	27	9.0	9.0	9.8	+1 58	-26.0		25	85	10.6		$12.3$	+0 9	+ 7.2	
8	31	9.1	9.1	$10.0$	+2 8	-14.1		26	87	10.6		$12.4$	-0 7	-24.0	
9	31	9.1	9.0	$10.0$	-2 6	- 8.4		27	87	10.6		$12.4$	+1 24	+ 2.7	
10	32	9.2	9.1	$10.0$	-0 11	-18.0		28	91	10.7		$12.6$	-0 52	+11.9	
11	38	9.3	9.3	$10.3$	+2 33	-33.9		29	91	10.7		$12.6$	+1 42	+20.8	
12	43	9.5	9.6	$10.5$	+1 29	-11.8		30	92	10.8		$12.6$	-1 25	-21.2	
13	47	9.6	9.5	$10.6$	-0 3	-30.8		31	97	10.9		$12.8$	+0 22	+17.7	
14	48	9.6	9.4	$10.7$	+0 13	+30.5		32	98	10.9		$12.9$	+0 7	-10.2	
15	51	9.7	9.7	$10.8$	+1 51	-33.8		33	100	11.0		$13.0$	+0 17	+15.0	
16	56	9.8	9.5	$11.0$	+2 0	-30.0		34	104	11.1		$13.2$	-0 31	+ 6.6	
17	64	10.0		$11.4$	-1 41	+ 0.3		35	108	11.2		$13.3$	-1 2	-11.7	
18	69	10.2		$11.6$	-1 30	+14.1									

$$M = 9.0 + 0.027 (G - 26.2).$$

## Y Cassiopeiae

23<sup>h</sup> 55<sup>m</sup> 57<sup>s</sup> (1855.0) + 54° 52'.5Max. = 2 414 354<sup>d</sup> (5 Martii 1898) + 410<sup>d</sup> E.

Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	HP.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5 <sup>M</sup> .0	4 <sup>M</sup> .9	-4 <sup>m</sup> 18 <sup>s</sup>	+ 4'.5	σ Cassiop. Σ 3049 PD. 5 <sup>M</sup> .12 W+ „ 7.05 G- P. 7.6 A* „ 8.2 B	36	79	10 <sup>M</sup> .5		10 <sup>M</sup> .8	+0 <sup>m</sup> 26 <sup>s</sup>	- 8'.7	P. t
2	0	7 <sup>M</sup> .5	7.0	7.0	+2 16	+ 1.5		37	80	10.5		10.9	+1 44	+25.8	
3	11	7.9	7.9	7.7	+0 6	- 7.9		38	80	10.5		10.9	-1 0	+ 5.7	„ q ***
4	20	8.3	8.3	8.2	-0 46	- 6.3		39	83	10.6		11.0	-0 14	+ 6.6	„ p, dpl.
5	26	8.5	8.5	8.5	+0 9	-37.4		40	83	10.6		11.0	+0 13	+ 1.5	„ 10 <sup>M</sup> .6 c
6	29	8.6	9.0	8.7	+1 33	+22.7		41	84	10.6		11.0	-0 46	+ 9.3	
7	33	8.8	9.0	8.9	+1 23	-30.1		42	84	10.6		11.0	+0 3	+13.6	dpl.
8	35	8.8	9.0	9.0	-3 6	+ 0.9		43	85	10.7		11.1	-0 53	- 5.8	
9	38	8.9	9.0	9.1	-2 38	+ 2.5		44	86	10.7		11.2	-1 46	+ 8.9	
10	39	9.0	9.1	9.1	+0 45	+21.2	„ 8.3 β	45	86	10.7		11.2	+0 30	-13.8	
11	40	9.0	8.8	9.2	-2 58	-13.5		46	87	10.7		11.2	+1 5	-12.0	
12	41	9.0	9.3	9.2	-2 40	+12.7		47	89	10.8		11.3	-1 40	- 3.9	
13	42	9.1	8.9	9.3	+2 12	-24.8		48	90	10.9		11.3	-1 33	-13.8	
14	44	9.2	9.0	9.3	+2 30	-15.9		49	90	10.9		11.3	+0 22	+ 6.6	
15	45	9.2	9.1	9.4	-1 1	-15.9	„ 9.0 o	50	91	10.9		11.4	-0 54	+ 6.9	
16	50	9.4		9.6	+1 16	+23.9	**	51	93	11.0		11.5	+0 30	- 3.6	
17	51	9.4	9.5	9.6	-0 53	- 3.0	P. 9.7 l	52	94	11.0		11.5	-1 34	+ 6.0	
18	53	9.5		9.7	+1 19	+24.2	**	53	94	11.0		11.5	+0 54	-14.4	
19	54	9.5	9.5	9.8	-0 14	- 6.7	P. 10.0 s	54	94	11.0		11.5	+0 1	- 9.6	
20	56	9.6	9.5	9.9	-1 12	-14.1	„ p'	55	96	11.1		11.6	-1 21	- 3.6	
21	56	9.6	9.5	9.9	+0 54	-23.4		56	100	11.2		11.8	-1 11	+ 0.2	
22	58	9.7	9.5	9.9	-1 14	+14.8		57	101	11.3		11.9	-1 20	+ 2.7	
23	60	9.8	9.5	10.0	+0 49	+ 2.4	„ 9.9 m	58	101	11.3		11.9	-0 31	+12.0	dpl.
24	63	9.9	9.5	10.1	-1 50	+23.0	dpl.	59	104	11.4		12.1	+0 13	+ 9.1	****
25	67	10.0		10.3	-0 51	+ 5.8	P. o' ***	60	104	11.4		12.1	+0 1	+ 2.1	P. 11.3 d
26	70	10.1		10.4	+0 15	+ 8.4	„ n ****	61	108	11.5		12.3	+0 30	- 6.7	dpl.
27	72	10.2		10.5	-1 35	+ 8.1		62	108	11.5		12.3	-0 46	+ 9.0	
28	74	10.3		10.6	0 0	+ 0.7	„ 10.3 b	63	110	11.6		12.5	+1 13	0.0	
29	74	10.3	9.5	10.6	-0 41	+18.6		64	114	11.7		12.7	-0 51	+ 9.4	
30	75	10.3		10.6	+0 56	- 2.4	„ r						+0 3	+ 0.1	P. 12.0 f
31	76	10.3		10.7	+0 40	+11.9							-0 10	+ 1.1	„ 12.7 g
32	76	10.3		10.7	-2 40	+19.5							+0 6	+ 0.8	„ 12.7 e
33	77	10.4	9.5	10.7	-2 33	-10.2							-0 22	+ 1.9	„ 13.0 k
34	77	10.4		10.7	+1 35	+26.7							+0 7	- 1.7	„ 13.4 a
35	78	10.4		10.8	+0 56	+11.7							+0 6	- 1.2	„ 13.9 z, dpl. (sp.)

\* Parkhurst, Researches in Stell. Photom. 1906, p. 176 Tab. 110 (magnitudines et litterae).

\*\* (16 + 18) = BD. + 55° 3081, 9<sup>M</sup>.2\*\*\* (25 + 38) = BD. + 54° 3100, 9<sup>M</sup>.5\*\*\*\* (26 + 59) = BD. + 55° 3075, 9<sup>M</sup>.5

$$M = 8.5 + 0.037 (G - 26.2).$$